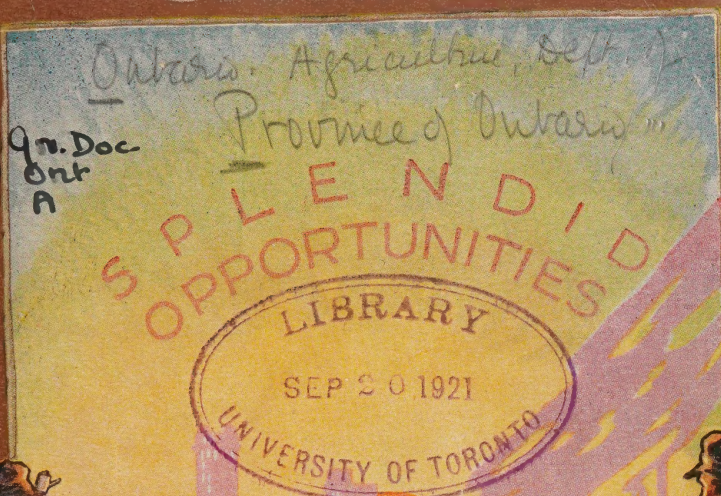



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HANDBOOK OF ONTARIO CANADA





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THE HON. ERNEST CHARLES DRURY
Prime Minister of Ontario

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Ontario. Agriculture, Dept. of

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THE
PROVINCE
OF
ONTARIO
CANADA

Prepared by direction of the Honourable Manning W. Doherty,
Minister of Agriculture for the Province
of Ontario, 1920

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PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO



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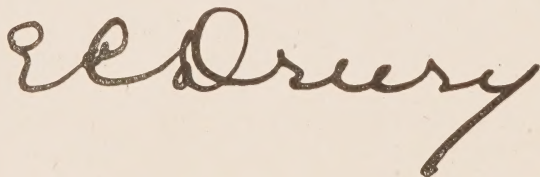
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FOREWORD

The aim of this Handbook, which describes the natural resources and advantages of the Province of Ontario, is to induce men and women of other lands, particularly the British Isles and the United States, to come here and give their energy to the realization of its great opportunities, yielding home and comfort and wealth in the midst of an advanced civilization, protected by the law and strength of Canada as a free and leading member of the British Empire.

There is abundant room for enterprise in an area of over 400,000 square miles, with much fertile soil and great water powers; immense forests and mineralized areas; a network of roads and railways; many farms and factories; cities, towns, and villages; schools, colleges, and churches; institutions of friendship and instruction, help, health, and recreation; a splendid land of easy access, and an energetic people, holding out a hospitable hand to every stranger willing to work and obey the law.

The information given in this Handbook is necessarily incomplete, but if it is sufficient to interest the reader and to lead to enquiry and further investigation it will serve a useful purpose for the individual and for the cause of human progress.

A handwritten signature in dark ink, appearing to read "E. E. Drury". The signature is written in a cursive style with a long, sweeping underline that extends to the right.

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Legislative Assembly Buildings Toronto

O N T A R I O

MAGNITUDE

Ontario is one of the largest of the nine provinces of Canada.

It is limited on the east by James Bay and the Province of Quebec; on the west by the Province of Manitoba; on the south by the River St. Lawrence, the Great Lakes, and the State of Minnesota; and on the north by Hudson Bay.

The Province has an estimated area of 407,262 square miles. Its greatest extent from north to south is 1,075 miles, and from east to west 1,000 miles. Measured by the Canadian Pacific Railway from east to north-west it is 1,285 miles. Larger than the largest of the prairie provinces by 155,430 square miles, it is fully three and a third times the size of the British Isles, and is almost twice the size of either France or Germany.

Ontario is divided into two great sections: Southern Ontario, the older settled portion, with an area of 77,000 square miles; and Northern Ontario, 330,000 square miles. The two sections as land are only in small part co-terminous, practically from Mattawa, on the Ottawa, via Lake Nipissing and French river, to Georgian Bay. While Southern Ontario begins about forty-eight miles west of Montreal, Northern Ontario lies north of a line commencing at Mattawa, 266 miles farther west, and running westward and north-westward along the north shores of Georgian Bay, the North Channel and Lake Superior, and along the United States boundary to Manitoba.

NATURAL FEATURES

Running roughly from east to west through Northern Ontario is the region of pre-Cambrian rocks, valleys, lakelets, and muskegs or peaty swamps. This physical feature forms the divide or watershed for the drainage of the province. On the south side is the basin of the St. Lawrence, with its tributary, the Ottawa. On the north side is the basin of the rivers flowing into James and Hudson bays.

In that part of the St. Lawrence basin south of Lake Nipissing is the triangular peninsula of Southern Ontario. Generally of clay loam or sandy loam, that area is undulating in surface; rich and retentive in soil; good in natural drainage; plentiful in pure spring water; and, as adjacent to the Great Lakes, abundant in rain. The soil is capable of yielding a great diversity of the best products, pasture grasses for live stock, all kinds of cereals, a wide range of vegetables, many kinds of apples, and the finest of other fruits, such as the grape and the peach. For varied and high-class agriculture the conditions are ideal.



Cherry Trees, near St. Catharines.

In the basin of the rivers flowing north of the pre-Cambrian plateau is an area of many million acres of as fine farming land as that of Southern Ontario, and in some ways more favoured than the dead level clay stretches of Manitoba. This is the Great Clay Belt of Northern Ontario. It is finely adapted for the production of cereals, vegetables and grasses, for dairying, and the raising of live stock. Cultivated in small part, the country meantime is mainly a vast and valuable region of forests mottled with splendid mineral areas, the home of the lumberman and the lure of the miner. It is also a country of lakes, countless lakelets, and many magnificent streams.

CLIMATE

SOUTHERN ONTARIO

To give in a sentence or two of general terms the climate of a province which is over 1,000 miles in greatest length by 1,000 miles in greatest breadth, is to run the risk of being either indefinite or misleading. The country must be taken piecemeal, yet the pieces must be very large. Southern or Old Ontario, though large in itself, is by far the smaller section of the two great subdivisions of the province. Its climate is beautiful. With the exception of a few hot days, the summer, in the more southerly parts, is perfect. The fall is delightful. The winter, particularly mid-winter, is dry, very cold, and exhilarating. And the late winter slush and the spring glide into warm weather quickly. There are long intervals of unclouded sky and no fogs. The clear atmosphere and brilliant blue expanse above are a charm to people from the humid climate of the Old Land. Summer and fall recreations, such as hunting, fishing and canoeing, are an irresistible allurements, and winter sports are glorious. In short, the climate is conducive to agricultural prosperity, to enjoyment, and to strength.

Summer extends from early in June till towards the end of September; autumn from late in September to the end of November; winter from December to the end of March; and spring from April till the earliest days of June. The warmest months are July and August; the coldest are December, January, and February.

The average amount of bright sunshine for the year, as shown by six stations, is 1,920 hours out of a possible of 4,457. The greatest amount is in June, July and August; the least is in November, December and January.

The highest temperature recorded at Toronto during a period of 79 years was 103° in July, 1911, and the lowest ever recorded was 26° below zero in January. The average daily highest temperature in January is 29° and in July 78°. At Ottawa (256 miles northeast), during a period of 40 years, the very highest temperature has been 98° and the lowest 33° below zero. The normal daily highest temperature in January is 21° and in July 79°. The monthly mean of January is 22° at Toronto and 12° at Ottawa,



while the monthly mean temperature of July is 68° at Toronto and 69° at Ottawa. In the Niagara and St. Clair districts, and generally along the Erie Shore, the winter is milder and spring comes earlier than at Toronto.

The rainfall is adequate and is well distributed throughout the year. The average for thirty years is 24.09 inches of rain and 73.2 inches of snow. With ten inches of snow as equal to one inch of rain, the total annual precipitation would be the equivalent of 31.38 inches of rain. The rainfall of Old Ontario from May to October inclusive averages about $2\frac{3}{4}$ inches per month, being a little heavier in the former part of this season than in the latter; the north or Parry Sound excepted, where it is heaviest in September and October. It is slightly greater in the south-western section than in the other parts in spring and early summer.

The snowfall is heaviest in January and February. In each of these months the average fall is 16 inches in the central section, and 14 inches in the south-western. The snowfall in the north and north-west sections is heaviest in December, January and February, being in each month a little more than 20 inches. Beyond an occasional fleeting flurry in late spring or early autumn, no snow falls in Old Ontario from May to October inclusive.

The winter is not uniformly cold throughout. Periods of low temperature become longer and more intense until midwinter, after which they decrease gradually until spring. These cold periods of two or three days' duration are due to north winds, and are always moderated by a change of wind. A warm south wind now and again causes a thaw, and a portion of the snow disappears, so that an excessive accumulation of snow is usually prevented. These variations are not so marked in the north, and its climate is more equable.

The direction of the wind, as so far indicated, governs the climate to a great extent. Winds from certain quarters greatly influence the seasons in their variation from each other. The prevailing winds are from the west. As they pass over the Great Lakes their coldness is moderated in winter and their heat in summer. Hot winds from the south are similarly tempered. Damage from wind storms is uncommon.

The influence of the Great Lakes is much greater than that of

altitude, although the latter has a minor effect. They remain comparatively warm during the winter and have a greater effect in tempering the climate of places on the shores than of those inland, the difference being fairly large.

Speaking of the climate of Old Ontario in its different months, Sir Frederick Stupart, Director of the Meteorological Service, writes: "In April, vegetation makes rapid progress, and before the end of the month the trees are partially in leaf. Temperatures of 70° and over are sometimes recorded. May is almost invariably a very delightful month, with a mean temperature ranging between 52°



A Canopy of Apple Blossoms.

and 55° , and by the last week all trees are in full leaf. The summer months are decidedly warm, with much sunshine and very few rainy days, most of the precipitation falling in showers or thunderstorms which give sufficient moisture to the rapidly ripening crops. With September come the first indications of autumn, with cool nights; but it is seldom that ground frosts occur until October, which, with its superb weather and glorious autumn tints, is one of the finest months of the year. November, with shortening days, is often wet; but snow rarely falls until December, when the winter

sets in with blustery weather and heavy snowfalls, sometimes followed by cold spells, during which the temperature may fall to zero or lower. January and February are truly winter, and the ground is usually snow-covered. With March come signs of spring; in most years all snow has disappeared by the middle of the month, and by the end the trees are beginning to bud."

The chief differences between the north and the south of Old Ontario in winter are that the snowfall is slightly heavier and accumulates on the ground to a greater depth, while the temperature is lower and less variable, in the former than in the latter. In



Beside the Apple Blossoms.

the other months the differences of temperature lessen. Dealing with differences in greater detail, Sir Frederic says: (1) "In the valleys of the Ottawa and the Upper St. Lawrence we find a moderately cold winter, but a singularly exhilarating, bracing atmosphere makes even a zero temperature by no means unpleasant. Signs of spring are not wanting early in April, and by the beginning of May foliage is well advanced, and then follows a decidedly warm summer. The whole of this region is, between the middle of May and middle of September, included between the same isotherms as

the greater portion of France, and, after a protracted autumn, winter sets in again before December." (2) "In the peninsula of Ontario, or that portion of the province which lies east of Lake Huron and north of Lake Erie and the western portion of Lake Ontario, the winters are by no means severe, and the summers are seldom oppressively hot; this being due to the tempering influence of the lakes by which this portion of Ontario is surrounded." (3) "In the western counties the April mean temperature corresponds nearly to that of southern Scotland, and in May the mean temperature of the whole district is slightly higher than for the south of England. The temperature conditions during the summer



Tobogganing.

months may, as in the Ottawa and St. Lawrence valleys, be compared with those of France; the normal mean temperature for July ranging between 66° and 72° . September and October are generally delightful months, and snow seldom remains on the ground until well on in December, except on the high lands of the interior counties." (4) "That portion of Ontario which lies immediately east of the Georgian Bay, the District of Muskoka, at an elevation of 740 feet above the sea, abounding in small lakes, possesses a wonderfully bracing atmosphere which, with a very high percentage of bright sunshine and a pleasant temperature, has made this region a summer resort much frequented by people from the cities and towns farther south."

CLIMATE

Averages of Temperature in Southern Ontario

For various periods between 1840 and 1918

Showing for each month the monthly average mean daily temperature, and also the average daily maximum and minimum temperature.

	Southampton	Birnam	London	Woodstock	Stoney Creek	Toronto	Lindsay	Gravenhurst	Ottawa	Rockliffe
<i>January.</i>										
Monthly mean	21	21	21	20	26	22	16	15	12	7
Mean maximum	29	27	29	28	33	29	25	25	21	20
Mean minimum	14	15	14	12	18	15	7	5	3	—4
<i>February.</i>										
Monthly mean	19	20	20	20	23	22	15	14	13	10
Mean maximum	28	27	29	28	31	29	25	25	22	22
Mean minimum	11	13	12	10	15	14	6	3	4	—1
<i>March.</i>										
Monthly mean	27	28	30	28	32	29	25	24	25	22
Mean maximum	35	36	38	37	39	36	34	35	33	34
Mean minimum	18	21	21	19	25	22	16	14	16	9
<i>April.</i>										
Monthly mean	40	43	44	42	45	41	41	40	42	40
Mean maximum	49	52	54	53	54	50	52	51	52	53
Mean minimum	31	34	33	32	36	33	31	29	32	27
<i>May.</i>										
Monthly mean	51	55	56	53	55	53	54	52	56	53
Mean maximum	61	65	67	65	66	62	66	64	66	66
Mean minimum	41	44	44	42	44	43	42	41	45	39
<i>June.</i>										
Monthly mean	60	64	65	63	66	63	63	63	65	62
Mean maximum	70	75	76	75	77	72	76	75	75	75
Mean minimum	50	53	53	51	55	53	51	50	54	48
<i>July.</i>										
Monthly mean	66	68	69	68	72	68	68	67	69	66
Mean maximum	75	79	81	80	83	78	80	78	79	79
Mean minimum	56	57	58	56	61	58	56	55	59	53
<i>August.</i>										
Monthly mean	65	66	67	66	70	67	66	64	66	62
Mean maximum	74	77	79	78	81	76	78	76	76	75
Mean minimum	56	56	55	54	59	57	53	52	56	50
<i>September.</i>										
Monthly mean	59	61	61	59	64	59	58	58	58	56
Mean maximum	68	71	72	70	74	68	70	69	68	67
Mean minimum	50	51	49	48	53	50	47	47	48	44
<i>October.</i>										
Monthly mean	48	48	48	48	51	47	45	46	46	44
Mean maximum	56	56	59	58	60	55	55	55	55	54
Mean minimum	40	40	39	37	41	39	36	36	38	34
<i>November.</i>										
Monthly mean	37	36	37	35	40	36	34	38	32	30
Mean maximum	43	42	44	43	47	42	41	40	39	38
Mean minimum	30	31	29	27	33	30	26	37	26	22
<i>December.</i>										
Monthly mean	27	24	26	25	30	26	21	21	17	14
Mean maximum	33	29	33	32	36	32	29	29	24	24
Mean minimum	21	18	20	18	23	20	13	13	10	5
Annual mean	43	45	45	44	48	44	42	42	42	39

Rain and Snow

Monthly total (in inches) of rain and melted snow in the several districts of Old Ontario, average derived from thirty years.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
West and Southwest :													
Rain	1.14	1.22	1.34	1.91	3.16	2.91	2.57	2.52	2.52	2.71	2.28	1.54	25.82
Snow	15.2	13.3	8.2	2.4	.....	.....	.....	.....	.....	0.7	5.3	12.3	57.4
Northwest and North :													
Rain	0.75	0.50	0.97	1.52	2.65	2.70	2.92	2.76	2.99	2.98	1.88	0.90	23.52
Snow	24.7	20.5	13.0	3.6	0.4	.....	.....	.....	.....	1.5	12.6	22.4	98.7
Centre :													
Rain	1.08	0.96	1.31	1.89	2.81	2.72	2.89	2.09	2.34	2.49	2.02	1.34	23.94
Snow	17.2	15.1	9.5	2.9	.....	.....	.....	.....	.....	0.6	5.4	12.1	62.8
East and Northeast :													
Rain	0.91	0.67	1.16	1.56	2.64	2.78	3.00	2.56	2.51	2.34	1.81	1.13	23.07
Snow	20.2	16.8	10.8	3.2	0.1	.....	.....	.....	.....	0.8	7.5	14.7	74.1
The Province :													
Rain .....	.97	.84	1.19	1.72	2.81	2.78	2.85	2.18	2.58	2.63	2.00	1.23	24.09
Snow	19.3	16.4	10.3	3.0	0.2	.....	.....	.....	.....	0.9	7.7	15.4	73.2

Sunshine

The hours the sun was above the horizon at Ottawa, and the hours of bright sunshine at the principal stations in Old Ontario.

Station.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Sun above horizon at Ottawa.....	283	289	368	405	459	467	471	435	379	338	282	270	4,446
Barrie.....	57	85	138	181	207	245	265	229	182	124	58	44	1,815
Woodstock.....	62	89	123	167	207	246	275	238	182	136	76	54	1,855
Toronto.....	78	108	150	191	219	260	282	253	208	149	85	65	2,048
Lindsay.....	73	104	150	189	210	244	260	230	189	134	72	57	1,912
Kingston	77	109	149	185	221	250	271	248	190	137	79	69	1,985
Ottawa.....	83	110	149	189	222	230	253	245	170	131	79	61	1,922
Average of above stations.....	72	101	143	184	214	246	268	240	187	135	75	58	1,923

NORTHERN ONTARIO

Covering an area of 330,000 square miles and extending 770 miles from north to south, this vast territory in relation to climate can be dealt with only imperfectly. Generally speaking, the summers are warm and the winters very cold and bracing. The climate of the portion lying north of Lakes Superior and Huron differs considerably from that of the part east of Lake Huron and north of Lakes Erie and Ontario, especially in winter, when the former portion, in addition to being farther north, is less affected by the tempering influence of the Great Lakes. The winters are distinctly severe,



The Beach, New Liskeard, Northern Ontario.

but, as the tables for Moose Factory, Abitibi and Haileybury indicate, the summers are warm. These places respectively are 534 miles, 368 miles and 264 miles north of Toronto. The mean temperature at Moose Factory in January is 25° lower, and at Haileybury 15° lower than at Toronto; but as the spring advances the differences become less, until in May they are respectively 10° and 5° lower, and in July 6° and 1° lower. The average daily maxima temperatures at Moose Factory and Fort Hope (300 miles westward) for July and August are 74° and 70° , as against 78° and 73° at Haileybury, which latter temperatures are almost the same as at Toronto. The temperature is considerably lower in the far

north in June than at Haileybury and Toronto, and the nights are cooler all through the summer. The average winter temperature at Lake Nipissing and Haileybury is several degrees lower than at Montreal; and at Abitibi and Moose Factory, respectively 105 and 263 miles north of Haileybury, it is very nearly the same as in Manitoba. Temperatures of over 80° are not infrequent in Northern Ontario, and 90° and over usually occur several times each summer.

The total annual precipitation near Lakes Nipissing and Timiskaming is nearly the same as in Southern Ontario; but northward this diminishes somewhat, the rainfall becoming less and the snowfall greater.

The great fertile Clay Belt is far from being in the extreme north of the province; it lies in the southern portion of Northern Ontario, and in about the same latitude as Southern Manitoba. Having longer hours of sunlight than in Old Ontario, the crops are correspondingly benefited, and the time of harvest in north and south tends to be equalized.

From Haileybury, Timiskaming, in the east, the testimony is: "The climate is particularly healthful; the winters are perhaps a little longer than in older Ontario, but the air is more clear and invigorating."

From Hymers, Thunder Bay, in the west, the story is: "A climate and soil that will grow some of the finest roots, grasses, grains and vegetables in the world."

From Kenora, the farthest west district: "The climate on the whole is perfect; sometimes cold, but always dry in winter, and long, bright sunshiny days in summer; very warm and plenty of rain; also cool nights." And from the same district: "Shelter from the cold winds in winter is abundant." "We don't have the heavy gales in the spring and fall they have on the open prairie."

Tables showing the average mean highest, mean lowest, and the mean temperature; also the highest and lowest temperature on record, and the average precipitation.

ABITIBI—QUEBEC BOUNDARY.

1896-1918 (Broken Period).

Month	Temperature			Absolute		No. Days R.S.	Rain-fall	Snow-fall	Total Precip.
	Mean High	Mean Low	Mean	Daily Range	Max.	Min.			
January.....	11.7	-11.1	0.3	22.8	44	-47	0.03	17.3	1.76
February.....	12.8	-11.7	0.6	24.5	46	-51	R	14.0	1.40
March.....	27.9	1.4	14.7	26.5	62	-42	0.15	19.3	2.08
April.....	41.6	21.4	31.5	20.2	70	-20	0.76	4.6	1.22
May.....	55.4	36.5	46.0	18.9	85	8	2.43	2.0	2.63
June.....	62.9	48.6	55.7	14.3	94	27	2.41	S	2.41
July.....	73.3	55.1	64.2	18.2	94	34	2.62	.....	2.62
August.....	69.4	52.0	60.7	17.4	90	30	2.64	S	2.64
September.....	59.6	44.5	52.0	15.1	87	26	2.58	S	2.58
October.....	47.0	33.7	40.4	13.3	76	11	2.67	2.4	2.91
November.....	30.9	18.8	24.9	12.1	68	-16	0.89	12.5	2.14
December.....	16.8	-0.4	8.2	17.2	48	-45	0.12	18.7	1.99
	42.4	24.1	33.3	18.3	94	-51	17.30	90.8	26.38

Average date last frost, June 1st.

Average date first frost, September 22nd.

HAILEYBURY, TIMISKAMING.

1895-1918 (24 years).

Month	Temperature			Absolute		No. Days R.S.	Rain- fall	Snow- fall	Total Precip.
	Mean High	Mean Low	Mean	Daily Range	Max.	Min.			
January	17.8	-4.4	6.7	22.2	48	-40	0.32	17.7	2.09
February	18.4	-3.5	7.4	21.9	48	-48	0.18	17.9	1.97
March	31.3	8.2	19.8	23.1	71	-34	0.58	16.1	2.19
April	48.1	26.6	37.3	21.5	87	-3	1.21	5.7	1.78
May	61.5	32.9	47.2	28.6	93	13	2.75	1.6	2.91
June	72.7	49.8	61.2	22.9	100	28	2.90	.....	2.90
July	77.9	56.6	67.3	21.3	102	36	3.85	.....	3.85
August	72.9	52.2	62.6	20.7	95	30	2.94	.....	2.94
September	64.4	44.7	54.6	19.7	91	7	3.37	.....	3.37
October	51.0	34.6	42.8	16.4	80	10	2.70	3.5	3.05
November	35.3	21.5	28.4	13.8	67	-17	1.03	13.9	2.42
December	21.4	4.3	12.8	17.1	51	-38	0.35	19.9	2.34
	47.7	27.0	37.4	20.7	102	-48	22.18	96.3	31.81

Average date last frost, May 30th.

Average date first frost, September 17th.

CLIMATE

15

KENORA, KENORA DISTRICT—MANITOBA BOUNDARY.

1899-1917 (Broken Period).

Month	Temperature			Absolute		No. Days R.S.	Rain- fall	Snow- fall	Total Precip.
	Mean High	Mean Low	Mean Range	Max.	Min.				
January	7.7	-9.1	-0.7	44	-45	4	R	10.6	1.06
February	11.5	-8.7	1.4	46	-38	3	R	6.6	0.66
March	28.1	8.5	18.3	70	-34	5	0.21	7.9	1.00
April	45.7	26.8	36.3	80	-4	3	0.69	3.3	1.02
May	58.5	37.9	48.2	86	10	6	2.38	0.6	2.44
June	71.4	49.6	60.5	99	30	10	3.30	.....	3.30
July	76.6	56.2	66.4	94	39	9	4.25	.....	4.25
August	72.9	51.6	62.3	89	29	8	3.94	.....	3.94
September	61.5	43.1	52.3	88	20	8	3.03	0.4	3.07
October	47.3	32.5	39.9	78	6	7	1.92	3.1	2.23
November	30.5	18.9	24.7	60	-17	5	0.16	7.4	0.90
December	14.3	0.3	8.3	41	-40	5	0.12	9.7	1.09
	43.8	25.8	34.8	99	-45	73	20.00	49.6	24.96

Average date last frost, May 24th.

Average date first frost, September 14th.



THE HON. MANNING W. DOHERTY
Minister of Agriculture, Ontario

AGRICULTURE

Promise

The Province of Ontario, though great in forests, minerals, water powers and manufactures, is chiefly agricultural. Possessed of much excellent soil, the minor proportion of which is under cultivation, and a fine climate, suited to a wide variety of products, the Province is just at the beginning of development. By careful progressive farming, the section already cultivated, mainly in Old Ontario, might easily be doubled, perhaps trebled, in productive value. And when to this section is added the vast uncultivated area of fertile land in Northern Ontario, the future of the Province is bright with promise, pointing to the sustenance of millions.



Rural Ontario.

Areas

There are about fourteen million acres of land under cultivation, nearly fifteen million acres are cleared, and fully twenty-five million acres are assessed. But when it is considered that there are at least two hundred and thirty million acres of land surface in the Province, the area of arable land may be inferred to be many million acres more than the portion already cultivated. Beyond this cultivated portion (a few small spots excepted), Northern Ontario contains twenty million acres of alluvial soil, or one of the greatest expanses of fertile territory to be found in the world. And this does not include the vast stretches of agricultural land south and west of James Bay.

Values

The agricultural interests of the settled parts of the Province, that is, of Old Ontario, with a fringe of the new section, are second to none of any province or state of equal size on the continent of America. Over this area it is the most peopled, best developed, and richest Province of the Dominion. The people, by descent or emigration, are chiefly from the British Isles. There are 175,000 farms whose value ranges from low figures up to \$100,000 and over. The value of farm lands, buildings, implements and live stock is fully \$1,700,000,000. In value of field crops for 1918, Ontario, \$363,909,778, exceeded any of the other provinces of Canada, and the largest prairie province by \$64,547,678. In 1919, according to Dominion Bureau of Statistics, the value of Ontario's field crops was \$373,507,000.

MIXED FARMING

The Province has been for many years devoted to general agriculture or mixed farming. The average farmer combines the growing of grain, roots and grasses; the raising and feeding of live stock, including poultry; the production of milk for the home



Shropshire Sheep at Oak Park, Paris, Ontario.

dairy, the cheese or butter factory, the condensery, the town and city; and in many sections the cultivation of a few acres of orchard. He has learned the wisdom of transforming his grain, root and fodder crops into live stock and animal products—beef, bacon and fowl, and the various dairy foods. Thus his industry yields a larger cash return, farm labour is better distributed, and the productiveness of the soil is preserved; and this means the permanent prosperity of an agricultural community. If Ontario, still great in grain growing, is no longer a great grain exporter, but consumes



Fall Wheat, near Goderich.

its surplus locally, the lesson learned is valuable, in that it mitigates trouble over exhausted soils and periodic labour problems. It has been well said that "the richest lands eventually become exhausted unless care is taken to maintain their fertility by the advantage of sane methods of cultivation, while in the case of those of medium or inferior strength the period of profitable continuous cropping is, of course, much more limited. The wonderful tales of the undiminished fertility of western soils after producing successive crops of wheat for decades are in most cases incapable of proof, although

it may be admitted that in some few localities the soil has shown itself able to withstand wonderfully well the unfair treatment accorded to it." Dr. Tolmie, Dominion Minister of Agriculture, says that agriculture in Canada must be placed on a good sound basis, and that can only be done by adopting sane methods of mixed farming with live stock as a basis.

Having long ago abandoned the riskful and "shortsighted methods of so-called farming," and having adopted the sane and common-sense methods of permanent agricultural success and pros-



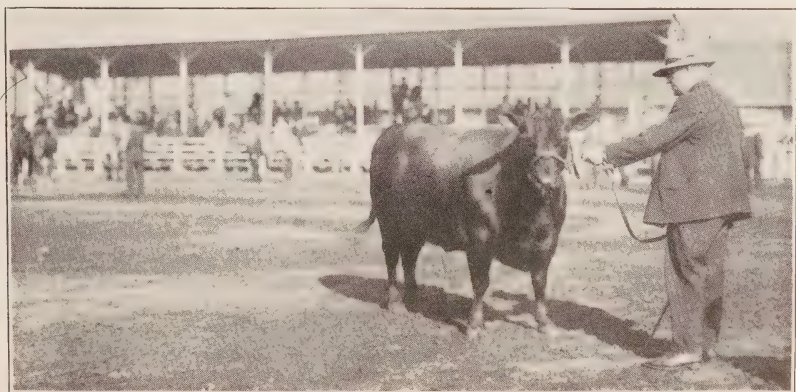
Cream Separating.

perity, Ontario has developed into pre-eminence three great branches of farming—dairying, stock-raising, and fruit-growing. These are not scattered at random. The prevalence of any one branch or combination of branches in a particular locality is largely due to climate, soil and other features. Turned thus into different channels of activity, the farmers of Ontario produce the commodities for which there is a keen demand; they are independent of special market conditions, and are enabled to live, if need be, largely within their own resources.

DAIRYING

Canada will depend for its prosperity on dairying to a greater extent than on any other industry. The magnitude and possibilities of this industry in Ontario, along with great diversity in other profitable branches of agriculture, mark out the Province as one of the most fertile and inviting in the whole Dominion.

Front Rank.—Dairying has for a long time been a basis of success in many parts of the Province, and it still continues in the front rank of the numerous branches of agriculture. The output of Cheese Factories, Creameries, Condenseries and Milk Powder



Champion Angus Cow, C.N.E., 1919.

Factories, together with milk delivered in towns and cities and butter made and consumed upon the farm, indicates a total probably in excess of any other line of agricultural industry. When dairying is coupled with pork production, its natural complement, the probability is strengthened that it is the most extensive and profitable industry in the Province of Ontario.

Progress.—At the Annual Convention of the Dairymen's Association of Eastern Ontario, President R. G. Leggett said:—

"Personally, I would advise dairymen to stand by the dairy products of Canada—especially cheese. I have more faith in the dairy business to-day than ever before; it has stood the test in war time, and we know it will stand the test in peace time."

Dr. J. H. Grisdale, Deputy Minister of Agriculture, Ottawa, said:

"The volume of business done by dairymen is simply enormous. It is incomprehensible to one who sees only a bit of the dairying in one part of the country, and yet it seems to me we have only touched the fringe of the possible. In this immediate neighbourhood, the development has been very great, and it might be considered to have reached the apex of possibility."

Mr. J. A. Ruddick, Dairy and Cold Storage Commissioner, Ottawa, said:

"The dairying industry has nothing to fear in the days which we are now facing, days over which there are some misgiving and doubt in more than one line of human effort. The dairying industry will continue to develop and expand as heretofore without interruption or disadvantages other than those with which it has always had to contend."

At the Convention of the Dairymen's Association for Western Ontario the same authority said:

"I can only say that, after having seen Canada from one end to the other, and also a large part of the United States, it is my firm conviction that there is not a better and more successful mixed farming district on this continent, or one in which there are so many fine farm homes as there are to be found in these central counties of western Ontario, where dairying is the principal occupation of the people. One cannot help noticing that these districts where dairying has been most intensely followed, are the ones in which you will find the greatest evidence of prosperity; better buildings, better houses, more up-to-date equipment, than in any other part of the country. I cannot conceive of a more convincing experience in favour of the dairying industry than a visit to these sections which I have spoken of."

If a survey be taken of present-day and former conditions, it will be seen that there has been marked progress in quantity, quality and variety of product and in price and demand.

Quantity.—With improvement in breeding, care and feeding, and a systematic weeding out of the unprofitable animal, there has been a substantial increase in the production per cow. While cheese occupies the premier position, there has been rapid development in the branches of creamery, condensery, milk powder and city milk supply. The factory output for the year 1918 was as follows:—

Pounds of Milk.	Value.
1,187,500,000 to make 107,886,724 lbs. of Cheese	\$24,356,019
757,000,000 to make 30,289,028 lbs. Creamery Butter	13,630,063
Condensed Milk, Powdered Milk, etc.	9,848,207
	<hr/>
	\$47,834,289

With a total factory product of dairy goods to the value of \$92,875,252 for the Dominion, it will be seen that Ontario produces over 50 per cent. of the factory output.

The value of the milk and cream used on the farm and supplied to the urban centres, reaches a total of at least \$17,000,000, while the dairy butter (made on the farm) and ice-cream reach an annual output of at least \$8,000,000, making together, \$25,000,000. Adding that total to the above, \$47,800,000, there is a grand total of \$72,800,000 for Ontario, or more than one-third of the dairy products of Canada.

The Hon. T. A. Crerar, Minister of Agriculture, Ottawa, said: "The estimated total value of dairy products of the Dominion of Canada for the present year (1918), and I include not only the output of factories, creameries and condenseries, but also the milk sold in towns and cities and the dairy butter manufactured and sold, amounts to about \$200,000,000. When I got these figures I was a little surprised, because I had really no idea the dairy industry in Canada had grown to such splendid proportions."

Ontario produces more than one-third of the total output of the dairy farms of the Dominion. There are great potentialities for an increase of the output in the older sections of the Province, and no line of agriculture is proving more suitable for the newer sections composing Northern Ontario. Many cheese factories and creameries are springing up in that land of undreamed possibilities.

Quality.—The premier position which Ontario Cheddar cheese commands among British imports is the strongest evidence we have of its excellence and the suitability of Ontario conditions for cheese production.

"I visited most of the large cheese centres of Britain and saw cheese from nearly every part of Canada, and had the privilege of comparing them with the cheese made in the Old Country. I found that our best cheese were sold right along with the best English and Scotch cheese."—G. G. Publow, Chief Dairy Instructor for Eastern Ontario.

"The producers and factory men deserve every credit for the excellent manner in which they performed their duties during the past strenuous years, and in the face of many handicaps maintained the output of cheese and in addition kept up the quality to a high point so that our reputation for finest quality of cheese has not suffered."—F. Hens, Chief Dairy Instructor for Western Ontario.

"I was very pleased indeed to learn from the Cheese Commission that Canadian cheese, particularly from this district, have been remarkably good. Therefore, I do not suppose it is to be hoped that you will make much progress along that line, but in other parts of Canada there is room for improvement, and there is certainly room for expansion. In butter there is a great deal of room for improvement."—Dr. J. H. Grisdale.

"During the past two years the Cheese Commission and the Dairy Produce Commission have compiled statistics showing the percentage of cheese of different grades from the various producing districts in Canada, and I am very glad to say that the Central Ontario district, which comprises all that part of the province lying between the Kingston district and Toronto, has stood both years at the very top. In 1917, 98.07 per cent. of the cheese from this district was graded No. 1. In 1918 the percentage of No. 1 grade was even larger, being 98.28. The percentage of No. 1 cheese from all Ontario in 1918, was 94.84 per cent. These figures speak for themselves, and I doubt if another cheese producing district in the whole world can show such a high average quality."—J. A. Ruddick.



Jersey Cow, champion for milk.

Price.—The great decrease in milch cattle throughout the world as a result of the war, the high price and scarcity of feeding stuffs, and the fact that the food value of dairy products is being appreciated as never before, prove that there is no fear of over-production in dairy lines for many years to come, and the Province is therefore likely to find a ready and remunerative sale for all we can produce. The past season's prices have been the highest on record, yet milk and cheese are the cheapest form in which to buy the food constituents which they contain, and there is no suitable substitute for butter.

"The cheese industry of Canada will need careful consideration during the next few years if it is to remain the strong feature of dairying, as has been the case in the past. There are many indications that it will not long survive a return to pre-war prices for cheese. Unless the price of cheese can be maintained at somewhere near its present level, the manufacture of Cheddar cheese is likely to drop to a point where it will be a minor, instead of a major factor, in Canadian dairying.—Prof. H. H. Dean, O. A. College, Guelph.

"Now that the war is practically over, everybody is talking reconstruction, but I do not think that somewhat overworked term need be applied to the dairying industry. There has been very little interruption or disturbance of the industry during the war, and it will flourish in the future just as it has in the past. The dairy industry has nothing to fear in the days which we are facing, and there is no need for misgivings and doubt as there may be in some other lines of industry. It is the opinion of everyone who has pretended to study the situation, that the dairy farmer has better prospects of receiving good prices for his products for a longer time ahead than the producer of almost any other farm crop."—J. A. Ruddick.

Demand.—The cities and towns are absorbing ever increasing quantities of milk and cream, and the condenseries and milk powder factories are extending their business at a rapid rate.

"There is one other product that we export—condensed milk—on which we have built up a very considerable industry. We are shipping to-day, and have been for some years, large quantities of this product, and in the Department of Agriculture we have been making a special effort to control the quality of this product as it left this country, so that it will have a good reputation in the markets of the world. We have managed to hold the market, and I see no reason why we should not continue to hold it. We will then have another string to our bow." "With a shortage of 150,000,000 head of cattle and other live stock in Europe, do you think dairy products are likely to fall quickly? I do not see how they could. It seems to me an absolute impossibility for these things to go down. Great Britain will take all the dairy products and poultry and eggs that we can give her—very much more than we are producing at the present time."—Dr. Grisdale.

"The possibilities of development in the dairy industry in the near future are very great. The very best markets of the world are open to the dairymen of Canada. You have an opportunity this year such as will never present itself again, and we must do something to establish and protect a high standard for export dairy products."—G. A. Putnam, Director of Dairying, Toronto.

Imports into Canada.

TWELVE MONTHS ENDING MARCH.

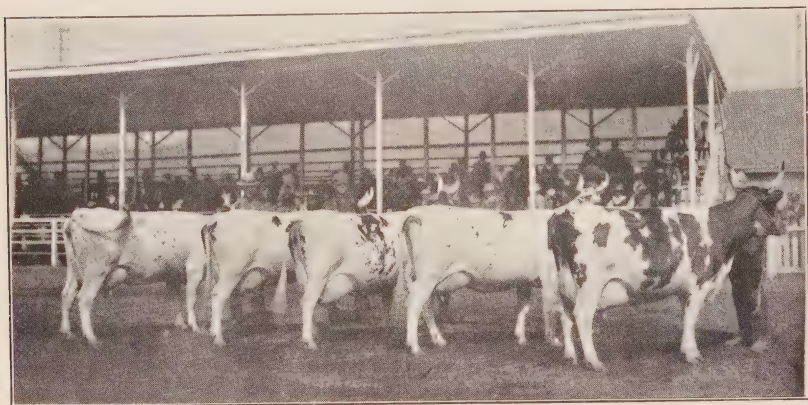
Produce	1918		1919	
	Quantity	Value	Quantity	Value
	Lbs.	\$	Lbs.	\$
Milk and Cream, fresh.....	.....	30,117	.....	21,698
Milk, condensed—				
United States	109,926	11,915	52,146	5,534
Other countries	348	36	.....	.....
Totals	110,274	11,951	52,146	5,534
Milk Food and other similar preparations—				
United Kingdom .....	.....	43,889	.....	27,642
United States .....	.....	229,518	.....	360,845
Switzerland .....	.....	30,552	.....	.....
Other countries .....	.....	8,065	.....	1,396
Totals .....	.....	312,024	.....	389,883
Butter—				
United States	337,813	101,540	203,372	62,462
Australia	65,076	23,010	76,888	26,726
New Zealand	31,080	11,695	1,643,040	624,955
Other countries	80	24	15,762	1,528
Totals	434,049	136,269	1,939,062	715,671
Cheese—				
United Kingdom	100	20	.....	.....
United States	331,630	114,111	164,305	61,301
France	2,900	1,181	1,745	1,101
Italy	5,848	2,249	6,893	2,465
Other countries	2,791	1,074	.....	.....
Totals	343,269	118,635	172,943	64,867

Exports of Canadian Produce.—

TWELVE MONTHS ENDING MARCH.

Produce	1918		1919	
	Quantity	Value	Quantity	Value
Cream, fresh—	Gals.	\$	Gals.	\$
United States	585,601	666,401	485,015	620,725
Milk, fresh—				
United States	1,116,362	241,527	827,973	226,777
Milk and Cream, condensed canned or preserved—	Lbs.	\$	Lbs.	\$
United Kingdom	8,082,149	1,129,225	30,525,473	4,530,933
United States	24,191,048	2,486,279	17,554,913	2,058,831
British South Africa	168,000	21,950	96,000	13,000
Cuba	666,974	67,148	.....	.....
Newfoundland	652,242	79,914	514,336	68,014
Other countries	9,896,305	1,170,532	2,096,134	364,519
Totals	43,656,718	4,955,048	50,786,856	7,035,297
Butter—				
United Kingdom	3,311,591	1,410,616	9,915,131	4,530,177
United States	840,398	256,657	2,918,651	1,199,226
British West Indies	201,677	96,265	217,378	123,714
Newfoundland	362,448	150,857	307,890	149,872
Other countries	210,040	86,072	300,107	137,875
Totals	4,926,154	2,000,467	13,659,157	6,140,864
Cheese—				
United Kingdom	168,240,447	36,277,359	120,056,420	27,525,634
United States	79,707	25,511	150,065	48,265
British South Africa	399,539	102,854	.....	.....
British West Indies	100,310	27,126	103,601	30,655
Newfoundland	472,945	105,796	382,237	103,118
Other countries	237,805	63,858	31,514,714	7,516,311
Totals	169,530,753	36,602,504	152,207,037	35,223,983

Dairy Stables.—Faith on the part of Ontario farmers in the dairy industry is evidenced by the ever-increasing number of well-built dairy barns equipped with cement floors, modern stanchions, mangers, litter carriers, milking machines, etc. It is only by the introduction of milking machines to replace the large number of helpers who have been drawn from the farms that many dairy farmers have been able to continue in business. The milking machine has been a large factor in keeping up the production of milk on the larger farms where twenty or more cows are kept.



Ayrshire Cows, C.N.E., 1919.

Silos.—Silos are scattered all over the Province. Stored with silage, they prevent the compulsory sale of stock at a sacrifice in the winter time. And there is nothing on the farm that brings in so much ready cash as this provision for a little extra feed to the cow during the trying heat of summer. Silage is an ideal feed to put dry cows into good heart and flesh, and they must be fed when dry if they are to progress after freshening. It is not perfect alone, but with other feed there is nothing of greater value, and it is looked upon as the most economical food on Ontario farms. The corn crop never fails. Alfalfa yields a most valuable crop and is unequalled for milk production, but when it is made into ensilage there is a good deal of loss.

Cow Testing.—Through the introduction of cow testing, encouraged and assisted by the Dominion Dairy Commissioner's staff, as

well as the Provincial Department of Agriculture, the average production of many herds has been greatly increased.

"In no line of agricultural work in Canada is there a greater opportunity to increase production than there is in the improvement of the dairy herds. The average yield of milk per cow in Canada is only about 4,300 pounds per annum. Compare that with individual records of over 25,000 pounds of milk in a year and herd records of over 10,000 pounds per cow, and one can readily see the possibilities for improvement. There are two ways in which a farmer can improve his dairy herd: (1) He may sell the cows he has and buy new ones; or (2) he may keep records of the milk and fat produced by each cow, breed the best cows to a sire that has a long line of heavy producing ancestors, and then raise the heifer calves. The first plan is the quickest, but likely to be the most expensive: the second plan is good for this reason; it develops and trains the owner to handle successfully his herd as it develops year by year into a fine piece of machinery, if you like. Will any one sit down and figure out how much more money he would be getting from his herd to-day if he had started using a properly bred dairy sire ten years ago, and had increased the yield per cow as fast as some men have done, doubling it in five or six years by knowing the best cows to raise heifer calves from, weeding out the low producers and feeding to better advantage, as every man will do who has the right viewpoint in keeping herd records. If you are keeping records, can you not get more out of them than you are doing? If you are not keeping any records, would you not learn some useful lessons by doing so, and finally, always remember that the most successful man is not he who knows the most, but it is he who can put the greatest amount of knowledge into practical use. The average yield of milk per cow for all Canada has increased fully 30 per cent. since the cow testing work was first commenced by the Dairy Division in 1904. This means that the total value of Canadian dairy products was greater by at least \$50,000,000.00 in 1917 than it would have been if there had been no improvement or increase in the herds since that time."—Geo. H. Barr, Chief, Dairy Division, Ottawa.

Feeding.—While pastures are depended upon to a large extent for the production of milk delivered to cheese factories, there are a rapidly increasing number of farmers who are supplementing pastures with fodder crops, chiefly corn ensilage, and they are utilizing concentrated feeding stuffs more largely from year to year. The cost of production is receiving careful attention on the part of the farmers and Government officials, with the result that dairying is being placed on a better business basis.

The value of the by-product in connection with dairying is an important factor in determining its worth as an industry. The production of pork and poultry raising are valuable adjuncts to dairying and are coming to be more generally followed.

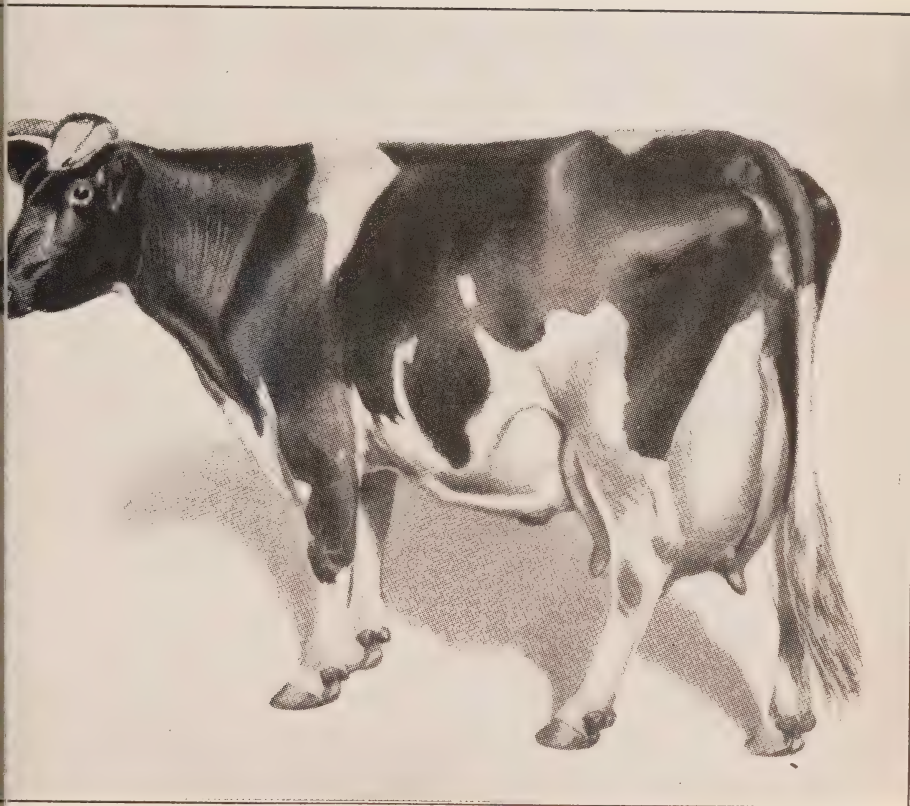
"I am safe in saying that the quality of our dairy cattle is even better than it was four or five years ago. We may congratulate ourselves on having made this progress at a time when everything was so exceedingly dear, but

possibly the fact that things were dear is responsible for the progress that we have made. When a man is feeding three or four cent meal and a cent to a cent and a half pound hay to dairy cows, he begins to look more carefully at the kind of cow he is giving it to, and that is responsible in a measure for the marked improvement that is observable in this Province as well as in Quebec and in some of the other Provinces. What can we do as farmers to establish ourselves more firmly than ever in this dairy industry? In the first place, we must increase the product of our herds. You have listened hour after hour to discussions on this point of bringing up the yield of the average herd. Progress has been made in the last few years, but still further progress is possible. Our cows have increased in product by about 50 per cent. in the last eight or ten years, and there is no reason why the average cow should not increase by 50 per cent. more in the next three or four years. That sounds like a pretty large order, but it is quite possible. It is quite possible to increase the yield of our dairy cows by 50 per cent. in the next four or five years. I say that in spite of the present high prices of feeds of all kinds. This is the time to do it, because we will appreciate all the more the importance of keeping only the best cows and eliminating the poor ones, and we will appreciate all the more the importance of keeping the progeny from the best and using the right kind of a sire. My experience has been that good feeding and good care and good selection and breeding pays in every instance. The middle of the cow is the big feature of that animal, and if you gratify the instincts of the cow by giving her something to satisfy the middle, she is going to give you something to satisfy the cravings of your purse—something that will pay for all the feed you give her. Even at \$60 a ton for oil cake meal, or \$30 or \$40 a ton for bran, and even hay at \$20 a ton, it will pay.”—Dr. Grisdale at E. O. Convention, January, 1919.

Breeding.—Dairymen are coming to appreciate the value of pure breeding backed by large production. The “scrub cow,” even if pure bred, is being discarded, and only those pure-bred bulls which are backed by high-producing ancestry are sought for among the better class of dairymen.

“We all know that the richly bred sire, presenting finest individuality combined with extreme dairy capacity, a triumph of the Canadian breeder, is worth big money (he can be purchased co-operatively or obtained from the Department) when records show that he has forty or fifty daughters that have given over 2,500 pounds of milk in a month, or when mated with grade cows he has far more than doubled their yield of fat in two generations; so, plainly, the modern dairyman can scarcely afford to overlook the importance of this factor as shown by dairy records.”—C. F. Whitley.

“I can remember, somewhere about twenty-odd years ago, being a teacher in a little country school in the Eastern part of Ontario, and a neighbour, four or five miles away, came to me because I had displayed some little artistic ability, to get me to sketch the marking of a couple of Holstein heifers he had bought from some one near Belleville here. I did it with pleasure. These were the first pure-bred Holsteins in that neighbourhood, and the man was looked on as a fool to have paid \$75 apiece for these two heifers. That man has sold, since that time, many thousand dollars' worth of pure-bred bulls, and he has bought very few females, not more than half a dozen altogether since that time. He had a sale the other day where he sold something like fifty-odd head and kept a herd for himself, and he sold his farm to his son. The cattle brought just about twice as much as the



Holstein Cow.

farm. That is the result of one little investment in a couple of pure-bred heifers and eliminating the scrub cattle. At the time of his dispersal sale, he had nothing but pure-bred cattle on his farm, and had probably three times the value in live stock that he had in land, although he had a good farm."—Dr. Grisdale.

"I am glad to know that the improvement in dairy herds continues to show good progress. The average yield per cow has been increased by at least 25 per cent. during the last ten years. That is where our increase in production is coming from largely, and where those who keep their eyes on the number of cows in the country are being deceived. This increase is largely the result of disposing of the unprofitable cows."—J. A. Ruddick.

Ontario is furnishing large numbers of high-class dairy cattle for shipment to the newer provinces, and is being looked upon as the breeding ground for the Dominion, while American dairymen are supplementing their herds with good stock from Ontario.

Farmers are realizing that the proper principles of cow-testing, weeding, feeding and breeding, in order to improvement of the dairy herd in yield and quality of milk are all-important, and that these principles can be carried out without great cost.

Full particulars as to comparative value of food stuffs and rations for the dairy herd, care, breeding, stabling, silo construction, etc., will be found in Bulletin No. 253, which can be secured by writing to Ontario Department of Agriculture, Toronto.

Dairy Instruction.—A number of specialists are sent out by the Provincial Department of Agriculture to factories and creameries during the season of manufacture to assist the makers in producing cheese and butter of a better and more uniform quality, to inspect sanitary conditions, and to give instruction to patrons in the care and handling of raw material. This scheme of dairy instruction, including factory meetings, district dairy meetings, annual conventions, and the distribution of literature, together with regular courses of instruction at the dairy schools, has brought about a great improvement and has put millions of dollars into the pockets of the dairy farmers.

The Economy of Dairy Farming.—The dairy cow is the most economical producer of human food of all our farm animals. No other animal can turn into so much money the great range of animal foods, roughage and concentrates, grown on the average farm. The product of no other farm animal, when sold off the farm, removes so little of the fertilizing constituents or plant food

from the soil. She is the only farm animal that every day yields a marketable product within twenty-four hours of the time her food is fed. It has been proven by careful experiments that a cow yielding thirty lbs. of average milk per day will in one week produce $26\frac{1}{4}$ lbs. of dry matter, all of which is edible and immediately available for human consumption. In the same time a fattening steer gaining two pounds per day, on approximately the same feed, will produce only $10\frac{1}{2}$ lbs. of edible dry matter. It has also been shown that from 100 lbs. of digestible matter in the food, that the dairy cow produces 18 lbs. of digestible solids suitable for man; the pig, 15.8 lbs.; poultry, as eggs, 5.1 lbs., as meat, 4.2; lambs, 3.2 lbs.; steers, 2.8 lbs., and sheep, 2.6 lbs., clearly demonstrating that the dairy cow easily leads all farm animals in economy of feeding operations.—Bulletin 253, O.A.C.



Jersey Cow, grand champion, C.N.E., 1919.

General Success.—Dairying yields much success to the man that farms upon a large scale and to the man of 50 or 100 acres. There is nothing that pays better than milk and butter-fat produced upon the farm. And though creameries and cheese factories go on increasing the requirement for milk, the demand for good dairy butter will remain. A capable, industrious farmer can make dairying

profitable with comparatively little expense. Beginning with a few good cows, he can maintain and improve a herd at a minimum of cost. The man that secures or breeds the best dairy cows and feeds them with the balanced ration of his own farm, is the man that makes money in dairying to-day.

"While the dairy farmers have been getting little above the cost of production for their output for many years, it is in the dairy sections that we find the most uniformly prosperous and contented agriculturist. The dairyman has the advantage of a continuous income, and even in poor years gets a fair return, and can always 'carry on.' It is a most dependable line of agriculture, taking it year in and year out."—G. A. Putnam.

The Outlook.—With the high prices which have prevailed and are likely to continue, the farmer may look forward with every hope of success. The large cities, with increasing population, are going out farther and farther for cream and milk, the demand being so great as to encroach upon the rapid expansion of the manufacture of cheese, and to make it almost certain that high prices will continue. The outlook is very bright for Ontario dairying.

Mr. James Donaldson, President of the Dairy Association of Western Ontario, said:

"Dairy products are the best things to stand by at the present time. They are the scarcest thing in the British market and the markets of the world to-day, and I know that the safest proposition for the farmer to-day is dairying."

The Hon. M. W. Doherty, Minister of Agriculture for Ontario, says:

Throughout the greater part of Old Ontario, dairying is the leading branch of agriculture and capable of great expansion. The export of cheese, butter, condensed milk and powdered milk will be an important factor in creating a favorable trade balance, and the dairy farmer should therefore put forth every effort to increase the output of those concentrated foods which are so valuable in the export trade, and for which a very attractive foreign market will be open continuously.

While all sections of Ontario are suited to dairying, the northern parts present possibilities as yet little known. With dependable pastures and bountiful crops of clover and roots, and a climate well suited to the production of butter and cheese, the development of dairying in the newer sections of the Province will be limited only by the number of settlers who can be induced to make their homes in this land of great possibilities.

Ontario has, in the newer sections of the north, a large number of herds, most of them small, supplying milk and cream to the towns and villages and to the twenty-four cheese factories and creameries. While only about one million pounds of cheese are manufactured in the northern factories, the industry is destined to expand to large proportions in that section of the Province.

The future holds bright prospects for the dairy farmers throughout all sections of the banner Province of the Dominion.

LIVE STOCK

The Province of Ontario is acknowledged to be the home and nursery of live stock for Canada and for a large part of America. Its commanding position, invigorating climate, fertile soil, pure water, nutritive grasses, grains and roots, advanced state of agriculture, and character of people guarantee that this high rank is



Thoroughbred Stallion (a gift from King George to Canada).

more than likely to be upheld. Not that the quality of its animals has yet reached the standard that is desirable. Rather, the Province is advancing toward the ideal, which is to make the live stock industry the right arm of a successful agriculture. The "manufacture" of high-class animals and a wide variety are the conditions

of prosperity. Up till the outbreak of the war the quality of Ontario live stock not only was being maintained but was greatly improving every year, through the importation of large numbers of first-class horses, cattle and sheep, of both sexes. Since then importations from Great Britain have been reduced, but when shipping returns to its normal condition large importations may be expected. Dr. S. F. Tolmie, Dominion Minister of Agriculture, recently said in effect that to encourage better breeding, better feeding, and better finishing the Live Stock Branch at Ottawa are preparing to offer prizes at the winter shows for all classes of finished animals. He also said that to build and uphold our trade in pure bred stock in foreign countries we must look well to the health of our herds and flocks, and that a scheme is afoot to establish accredited herds. The improvement in all branches of Canadian-bred pedigreed stock is very great, and this indicates that Ontario is destined to remain the principal supply ground for other provinces and beyond.

Operating a modern-equipped and well-managed stock farm is not drudgery, but legitimate, enjoyable work—it is the intelligent care of good animals, which is one of the most attractive pursuits in the world. The business is not only one of fascinating interest, but carries with it substantial profits as well. Ontario is bound to become and is becoming every year more and more a live stock producing province, but the man who attempts to put his raw products, such as coarse grains and fodders, upon the market, and at the same time rob and impoverish his land is gradually becoming poorer as the years go by. Dr. Tolmie says it is the duty of both Federal and Provincial Governments to conserve the fertility of Canadian soil, and this can be done only when live stock in considerable numbers is reared. Nevertheless, farmers could not be induced to stock heavily unless they were assured of safe and adequate markets. And markets involved many factors, three of which are: a keen demand for our product in various countries, transportation and cold storage. A valuable market exists to the south for our live stock, but it is not well to keep all our eggs in one basket; we should develop that great market across the seas in the Mother Country; and we should also develop our inter-provincial trade and, if possible, forestall importations.



Percheron Stallion, champion, C.N.E., 1919.



Clydesdale Stallion.

Horses

Notwithstanding steam, electricity, the motor and other forms of mechanical traction, it is a common belief among horse breeders that the demand and price for good horses will within the next few years be greater than ever. There is a growing desire for larger horses of good quality. A predicted shortage in good horses is likely to occur for two reasons: first, importations of sires and dams have been held up on account of the war; and, second, during that period horses have not been commanding prices which would induce the breeding of this class of stock to the exclusion of cattle, sheep and swine. The great demand for meats for human consumption, occasioned by the war, had a tendency to cause farmers to stop their horse breeding operations and go in for the raising of cattle, sheep and swine, the prices for which have been abnormally high.

Ontario is the banner province for the breeding of horses. There is always a keen demand for high class sires and dams in Western Canada, and it is Ontario's mission to supply that demand as much as possible.

Classes.—Four classes of horses are always in good demand—the heavy-draught especially; the agricultural; the general purpose, express or delivery pattern for city use; and the carriage or combination horse.

The heavy-draught of the best quality, and weighing from 1,600 pounds upwards, is selling for from \$250 to \$375 per head. For this class there is always a special demand in heavy transport work. Young heavy-draughts, 1,550 to 1,600 pounds, if the mare is registered, \$250 to \$400; if the mare is unregistered, \$200 to \$250; geldings, \$200 to \$250. Whether bred from imported or province-bred stock, this class has a splendid market, particularly in the cities.

The agricultural horse, the nice-turned, short-coupled, thick animal, with good flat bone, well-set head and tail, ample quality, and weighing from 1,250 to 1,400 pounds, brings on the market from \$150 to \$200. It is in most common use.

The general purpose horse for express and delivery purposes, clean-boned, well-mouthed, and broken to single and double harness, with plenty of snap, standing from 15.3 to 16.2 hands, and weighing from 1,150 to 1,300 pounds, brings from \$175 to \$225, and is in good demand.

The carriage or combination horse has no set price—the individual himself decides values, and these may differ all the way from \$200 to \$500. Since the coming of the motor car, breeders apparently thought this class of horse would be little used, but for high class animals of this type there is still a good demand and it is likely to continue.

Driving horses are not in great demand and are selling from \$100 to \$175. An authority says: "What we want now in Ontario is better horses of all qualities, heavier horses, and more of them, and let us keep Ontario to the fore as the banner province."



Hackney Stallion, many times champion.

Breeding.—The breeding of horses in the Province is gradually being raised to a much higher standard under the Ontario Stallion Enrolment Act. No grade stallions are allowed to stand for public service. All pure bred stallions offered for public service must be inspected by government inspectors and upon the inspection report a certificate of enrolment is issued by the Stallion Enrolment Board. The following forms of certificate are issued and the requirements are as follows:—

Form A. 1: Approved. Form 1: Passed. Form 2: Defective.

The following are considered diseases or malformations as the case may be under the regulations: Bone spavin; curb, when associated with a formation of hock which predisposes to curb; bog spavin, when associated with a formation of hock which predisposes to bog spavin; ring bone; string-halt; side bone; roaring or whistling; periodic ophthalmia; navicular disease; and radical defect or defects or general defectiveness of conformation rendering the stallion unsuitable for use in the stud.

In addition to the foregoing certificates, for stallions that are of outstanding merit and in the opinion of the inspectors would do considerable good as sires in raising the general standard of perfection of the horses in the Province, a premium is given by the Government according to the number of foals these sires procure. This is done with the idea of retaining within the Province those sires which will do the most good in improving the horse breeding industry.

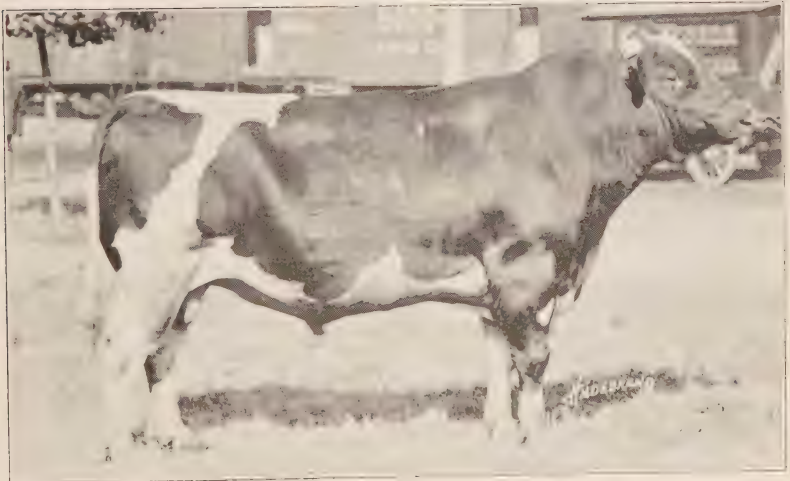
Breeding along special-purpose lines is the way to reap success. There is not to-day a prepotent, general-purpose breed of horses. Certain stallions, some of them pure-bred, more of them grades or scrubs, may in weight and other particulars fill the general-purpose bill, but experience has taught that when these are used as sires they fail to get anything like a large per cent. of commercial stock. Again, the best females should be retained. Canadian farmers have parted with their good brood mares almost as readily as with their geldings. There can be no improvement in quality unless farmers refrain from selling their high-class mares, and use the best sires obtainable.

Cattle

Dairy Cattle.—The animals of this class are the Holstein, the Ayrshire, and the Jersey. Larger and stronger than the corresponding grades, they have a far greater capacity for their special service, yielding almost a third more milk. A cow in Oxford County "made a new world's record in butter, producing 200.34 pounds of butter from 2,920 pounds of milk in 30 days, and in 60 days produced 337.49 pounds of butter from 5,795.8 pounds of milk. These figures give her a world's record in butter production from one to thirty days, and her sixty-day record is exceeded only by one other cow." To acquire a pure-bred herd is more expensive than a grade,



Hereford Bull, grand champion, C.N.E., 1919.



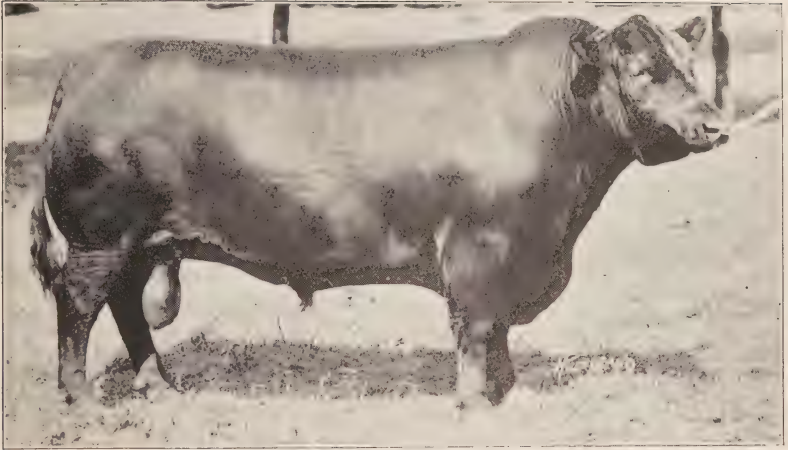
Holstein Bull, champion, C.N.E., 1919.

but when properly cared for the herd gives in milk and calves a far larger profit, and it is not more costly to maintain. In this line many farmers have been signally successful. Well handled, there is no animal that pays better than the pure-bred dairy cow. The Shorthorn is also in the class of dairy cattle. Each breed has its champions, and experience must decide.

Dual-purpose Cattle.—While, on the whole, some of the dairy breeds excel in the production of milk and butter, the milk strain of the Shorthorn seems to suit best the requirements of those that handle the dual-purpose cow. It is exceptionally valuable for crossing purposes, and though generally viewed as a beef breed, it has produced many fine dairy animals. A dual-purpose cow, capable of bringing forth a calf that can be economically developed into a beef animal of good quality, and yielding at least 5,000 pounds of milk per year, while realizing a good profit as beef when past breeding, meets with favor in many parts of the Province. It is a significant thing that Shorthorns and their grades are used extensively for dairy purposes in the Old Land.

Beef Cattle.—In this Province there have been four breeds handled for the purpose of beef production: the Shorthorn, the Hereford, the Polled Angus, and the Galloway. In most of the beefing sections the foundation stock of breeding cows until recently has been almost wholly Shorthorns and their grades. When properly bred and handled, the Shorthorn is a profitable dual-purpose breed. But perfection of beef type cannot be so closely approached on the average by the dual-purpose as by the special, nor can there be so high an average of milk production as by the special purpose dairy breeds. Nevertheless there is abundance of evidence showing a profitable combination of these qualities, which suits to perfection the requirements of thousands of farmers in the economical production of even high-class beef on high-priced lands. The good feeding qualities and rapid growth of the Shorthorn make it a general favourite among farmers that raise steers for beef. Nevertheless the other breeds have their strong advocates.

Demand.—There is a good demand for all breeds of cattle commonly found in the Province of Ontario. Buyers from Western and Eastern Canada constantly turn to Ontario to purchase young



Angus Bull.



Jersey Bull, senior and grand champion, C.N.E., 1918.

bulls and heifers as a source of improvement in their herds. The Ontario Government assists this western trade by handling co-operative shipments of pure-bred live stock. This enables a western farmer to purchase a single animal in Ontario and have it delivered to him in Western Canada at a very low cost. Such an arrangement is mutually beneficial to the Ontario producer and the western purchaser.

The abnormal demand, with corresponding high prices during the war, has given a wonderful stimulus to cattle breeding in Ontario. Well bred bulls are selling at from \$800 to \$15,000, while other good young sires but of lesser merit and perhaps not so fashionable a pedigree command prices varying from \$200 to \$800. These sires are used with much success in improving the average grade herd throughout the country.

For market classes of beef animals the demand has been keen, prices ranging during this season (1919) from \$12 to \$15 per cwt. for choice steers.

The great need at the present time is two-fold. First, more and better pure bred bulls, with the elimination of the scrub bull; second, with better breeding from the use of pure bred sires should go better feeding in order that animals going on the market may possess much more finish than we find at present. *Feed, Weed and Breed* are commands which should be heeded by all live-stock men in the Province.

Considerable interest is being manifested in ranching lands in Ontario. There seems to be a possibility for the profitable raising of both sheep and cattle on the poorer and broken land in the Province.

Sheep

For the successful raising of sheep the climate of Ontario is as nearly ideal as any other land. Perhaps in no country are sheep liable to so few diseases, and all the leading breeds do well. Ontario is the breeding-ground for other provinces of the Dominion, and it helps to supply the United States flockmasters who look for quality and stamina when fresh blood is required for the improvement of their stock. Nevertheless the sheep industry decreased, but owing to the high price of wool and mutton during the war the sheep population is now increasing considerably.



Shropshire Ram, champion, C.N.E., 1919.



Southdown Sheep, Byron, Middlesex County.

Sheep farming and wool growing may very soon be one of the largest and most popular branches of agriculture in Canada. With a climate adapted to their healthy and economical development, abundance of cheap pasture and a stable and profitable market, sheep are bound to be bred in increased numbers. When good grade flocks are established all over the Province with the use of pure-bred sires in greater numbers, the pure-bred business will be built and remain on a steady basis. A large and often lucrative export trade in pure-bred sheep has been carried on with the United States, but it is unstable. The home trade in sheep has been very satisfactory. There is a steady and growing demand in most of the provinces, especially Quebec and those by the sea, but it is only a question of time when the Great Northwest will be the most profitable market.

In order to improve the quality of wool within the Province and also to place the wool upon the market in the best possible condition, the Ontario Sheep Breeders' Association, in co-operation with the Provincial and Federal Departments of Agriculture, has undertaken the work of co-operative grading of wool for farmers, that is to say, any farmer within the Province may ship his wool to Guelph in the care of the Ontario Sheep Breeders' Association to have it graded and sold according to grade. The grades commonly found in the Province are: Fine medium combing, fine medium clothing, medium combing, medium clothing, low medium combing, low combing, and coarse.

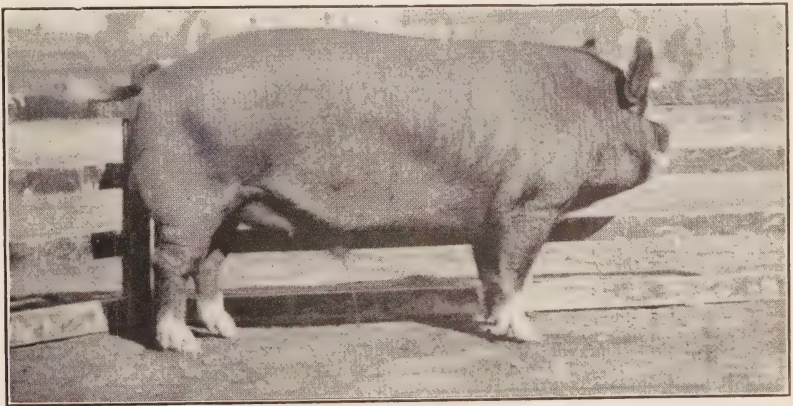
This work was begun in 1917 and has been continued during 1918 and 1919, and the success may be estimated when we consider that in 1917 the quantity of wool sold co-operatively on a graded basis was 271,122 lbs., while in 1919 the amount handled was 775,316 lbs.

The prices during the past season varied from 45c. for coarse wool to 67c. for medium and fine medium combing.

While the amount handled co-operatively has been increasing from year to year, there remains a considerable portion of Ontario's wool clip that is sold on a basis of a flat price per pound regardless of grade. However, it would appear to be only a matter of time and education until practically all wool within the Province will be sold on a graded basis.

Swine

The hog industry is one of the most profitable branches of agriculture. It is associated chiefly with dairying, the by-products—buttermilk, skimmilk and whey—being used as food, and producing the finest quality of bacon. Probably no animal but the hog will extract from these unmarketable materials such high financial returns. It is very important that the ration should be carefully graded according to the age of the pig and the object aimed at. Regarding cost, to feed meal alone is expensive, and raw turnip is usually so, but meal along with skimmed milk and cooked turnips



Berkshire Boar, champion.

or other succulent food materially lessens the expense. The man that grows his own feed has two sources of profit, the grower's and the feeder's, and thus has a distinct advantage over the purchaser of supplies. And if he will give his pigs an abundance of fresh air and sunlight, with shelter from winds or air currents, and a well-littered dry bed, his success is certain. The average farmer should not attempt breeding pure-breds to meet the demand for breeding stock, but should confine himself to producing market hogs. He will also find it safer to handle a small number of hogs, and rather as an adjunct to more important operations. The man that knows what number of hogs his farm will sustain in average conditions, and is never either overstocked or understocked, but

preserves a judicious conservatism in the face of fluctuating prices, is the man that makes money out of hogs.

There are pork-packing and bacon-curing establishments in various towns and cities of Ontario, and a steady market for well finished hogs of the bacon type, weighing from 160 to 200 lbs., is assured throughout the year. The yearly output from five Toronto plants alone is estimated at about \$60,000,000.

The success of Canadian bacon and hams in the British market is largely owing to possessing quality superior to the corn-fed hogs of the United States. Canadians cannot compete with the American feeders in the production of the thick, fat hog, which makes a cheap, inferior class of bacon. But they can in the production of prime, lean bacon, nicely marbled and mild cured, in the form of the Wiltshire side. And a high-class article of this kind is what is in demand in Canada and also for the export trade.

Prizes in Live Stock

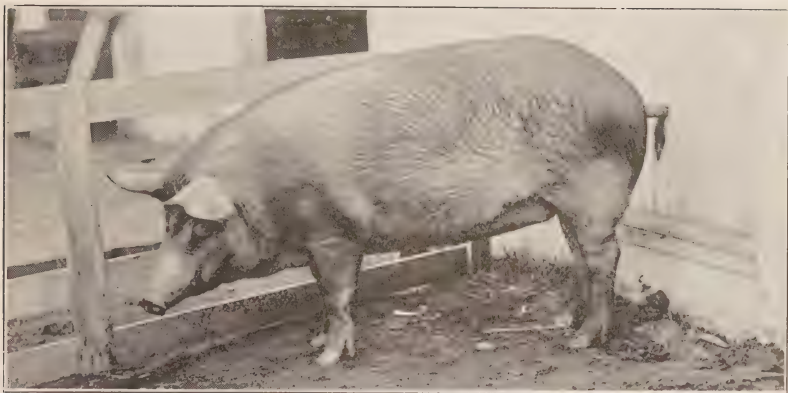
The quality of Ontario's stock may be fairly estimated when we consider the prizes awarded at the International Live Stock Show at Chicago. Here we see the best stock gathered together from all parts of Canada and the United States.

In the classes for horses we find Canadians competing mostly in Clydesdales, and it is to the credit of Canadian breeders and importers that they have always been able to carry off a fair proportion of the prize money in competition with the best that the United States can produce.

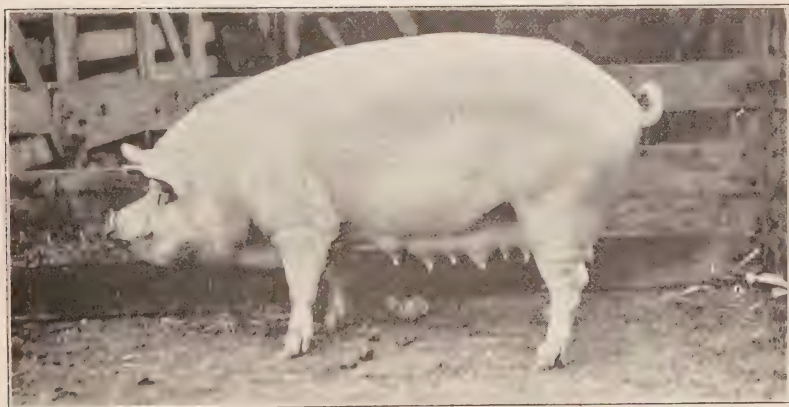
In the classes for sheep the following prizes were won by three Ontario breeders of Southdown sheep at the International show in 1918. In some classes as many as twelve exhibitors had entries.

<i>Class.</i>	<i>Prizes Awarded.</i>
Yearling ewe	1st, 2nd, and 3rd; and Grand Champion.
Ewe lamb	1st and 2nd.
Aged ram	3rd.
Yearling ram	1st and 2nd.
Ram lamb	1st and 2nd and 3rd.
Flock	1st and 2nd.
Pen of lambs	1st and 2nd and 3rd.

The showing in the Southdown classes was favorably upheld by Ontario breeders as in other breeds of sheep.



Tamworth Sow, champion, C.N.E., 1918.



Yorkshire Sow, champion, C.N.E., 1919.

Poultry

During the Great War it might be thought that in the Province of Ontario the breeding of poultry would have been lessened and progressive operations somewhat minimized. The reverse seems to have been the case, for at no time in the history of the Province has such a tremendous interest been taken in poultry breeding as in 1919, nor in any one year has so much progressive work been accomplished and such a stimulus felt. While the cost of poultry feeds has naturally been large, the high figures paid for eggs and poultry, the former especially, have more than recompensed the producer for the increased expenditure in feeding. Moreover, the high cost has led to a more economical, systematic and business-like method of feeding. What is called the Hopper System has come largely into use, especially where large flocks are kept. This simply means that a good deal of the time spent in daily feeding or two or three times a day has been avoided. These hoppers are self-feeding and are usually made of wood or galvanized iron. The use of crushed oats as a staple is largely favoured, as is also balanced rations of ground feeds, mixed before being placed in the hoppers.

Largely through the operations and activities of the Poultry Department of the Ontario Agricultural College, Guelph, the most aggressive and useful institution of this kind on the continent, several onward movements in poultry breeding and selection have been inaugurated. These include the culling of flocks for egg-laying by outward examination, including the colour of shanks and face, the distance between the pelvic bones, and the texture of the abdomen. Another important feature brought out during the past year is the lengthening of the working day of the hen by the introduction of electric light or other lights into the hen-house, and by this system greatly increasing the production of eggs during the winter months, when eggs have the highest commercial value. The lights are put on at dusk and maintained until about nine o'clock, and under this new system the last feed at night is given about eight o'clock. During December between four and five hours of artificial lighting is used, naturally the term being reduced as the days lengthen.

What is called the Baby Chick business has rapidly developed, in fact it has become largely a business in itself. By this method those who purpose taking up poultry may purchase baby chicks

instead of buying eggs and going through the trouble of hatching. Baby chicks are offered by breeders of most of the utility varieties and are shipped safely when one day old.

The Department of Poultry has organized about 145 breeding stations of the particular strain of Plymouth Rocks. These stations supply eggs for hatching to pupils of the rural schools.

The Department has now accurate records for four years of about 350 birds per year of a particular strain of Barred Plymouth Rocks. The average results of these years are for the March hatched pullets, 162 eggs each per year; for the April pullets, 157, and for the May pullets, 141, or an average from all ages of pullets of 153.5 per year. The percentage of poor birds is gradually becoming



Typical White Leghorns.

less and less. The real high producers, birds that lay 250 eggs or more, are becoming more common, and the highest yet secured from any one hen was 310 eggs in less than twelve consecutive months.

The aim of the Department is, if possible, to get on each farm 100 hens, and to encourage the local Poultry Associations, which deal more particularly with cities, towns and villages, to keep poultry in sufficient numbers to supply their own wants.

There has developed in the Province within the last few years nearly 100 specialized poultry farms keeping 500 or more birds.

The ordinary Ontario farm can keep a flock of 200 birds, and in good condition. Eggs and dressed poultry are in great demand at profitable prices. No industry is more important.

Beekeeping

The Province of Ontario is exceptionally well suited for the keeping of bees. The main honey flows are from White Dutch and Alsike Clover, while in some sections Basswood and Willow Herb yield a fine quality table honey. In the fall, Buckwheat, Golden-Rod, Spanish Needles, Boneset and Asters often yield a good surplus of darker honey. Beekeeping is just entering the field as a recognized branch of agriculture and many apiarists are now devoting their entire time to this occupation with profitable results. With



The Apiary.

good beekeepers, the average annual production of light honey is over fifty pounds per colony, and it is estimated that there are over 300,000 colonies of bees in the Province. A fine new Apiculture Building is now (1919) in course of construction at the Ontario Agricultural College, Guelph, where beekeeping is taught to the regular students, with annual short courses held during the winter and early summer for those unable to attend the regular course. An apiary of fifty colonies is kept in the College apiary for demonstration and experimental purposes.

FRUIT GROWING

The fruit belt of Southern or Old Ontario extends from east to west for a distance of over 400 miles, and from north to south for from 50 to 150 miles, constituting an area of from 20,000 to 60,000 square miles. It is no small oasis in the desert, but a garden in process of realization on the grandest scale. The yield at present is limited only by the want of adequate labour, and its prolific possibilities are as yet unmeasured. In the open air in the south grapes and peaches grow luxuriantly in vineyards and orchards



Homes in the Niagara Fruit Country.

extending over miles. And in the fall a market may be seen where hundreds of wagons are laden with luscious fruit and the atmosphere is filled with fragrance. In the fruit districts there are many beautiful homes, from the sweet cottage with shade trees and pretty garden, to the handsome brick house with ornamental trees, tennis lawn and picturesque beds of flowers. An authority on fruit-growing says: "We have the land, the sunshine and the rain—we have everything; only we need more men—more enthusiastic fruit-growers—to take advantage of these favourable conditions to make

Ontario grow, so that she will continue to be the guiding star of this great Dominion."

Kinds.—Ontario is the country of the king of fruits, the apple—Northern Spy, Snow, King, Golden Russet, Greening, Wealthy, and many other varieties; and it produces in abundance the pear—Bartlett, Anjou, Duchess, and others; the plum, such as the Burbank, Bradshaw, Lombard, Reine Claude, and Monarch; the quince, the cherry, the strawberry, the raspberry, and other small fruits; the grape, choice varieties of which are the Concord, Worden, and Niagara; and the peach, its best varieties being the Yellow St. John, Crawford, Elberta, and New Prolific.

Quality.—The gardens and orchards of Canada have the reputation of being among the best in the world, its apples, peaches and melons ranking with the finest on tables of luxury in all parts of the Dominion. Ontario leads in fruit production, and it has fruits of the best quality.

In the southern parts of the Province the peach is produced to perfection. Samples of Niagara peaches exhibited at the Crystal Palace, London, were admitted to be the finest that ever entered any British port.

Acreage and Yield.—The Province has *279,011 acres of orchard, *12,973 acres of small fruits, *8,542 acres of vineyard, and 63,810 acres of vegetables; producing 98 per cent. of the grapes, 92 per cent. of the peaches, 84 per cent. of the pears, 69 per cent. of the plums, and 60 per cent. of the apples and cherries grown in Canada. The average annual yield of apples in the Province is about 12,000,000 bushels, and of grapes about 15,000 tons. The production of peaches is mostly confined to Ontario.

Values.—The following table of average values for a year indicates the f.o.b. value to the farmer of the fruit crop:—

Apples	\$12,500,000
Peaches	1,000,000
Grapes	1,000,000
Pears	1,000,000
Plums	800,000
Cherries	300,000
Small fruits	3,500,000
	\$20,100,000

* Dominion Census Returns, 1911. See later figures, pp. 65 and 72.



Northern Spy (the apple that gave Ontario first place for quality).

Prosperous Parts.—In Ontario every branch of fruit growing is feeling the stimulus of high prices. The south-east or Niagara peninsula still holds the banner in the growing of tender fruit, such as peaches, grapes, and cherries, with enormous production and great success. Norfolk County and other parts in the south are gaining wide distinction for small fruits, apples, etc. This county has a large acreage, and all along the shores of Lake Erie some excellent orchards are to be found. Lambton County, on the south shore of Lake Huron, is laying a foundation not excelled by any other part of the Province. There is still much to be learned before the growers as a whole can hope to equal the best of the Province, nevertheless there is progress, and the fruit industry of Ontario has a great future. In the Georgian Bay district there is a great revival in the care and scientific treatment of apple orchards, and the output is increasing fast. The eastern counties, flanking Lake Ontario, are making remarkable progress. And so also are certain parts alongside the St. Lawrence. Other fruit sections are the Ottawa Valley, from L'Original in Prescott to Pembroke in Renfrew; the south shore of Lake Simcoe; Bruce and Huron Counties on Lake Huron, and the inland counties of Middlesex, Oxford, and Brant.

Transportation.—Compared with the Western Provinces, transportation facilities are excellent. The Niagara Peninsula and other southern districts are particularly good, there being electric lines which, supplementing the steam railroads and crossing the country at numerous points, carry the fruit rapidly to the railway station or wharf for prompt dispatch to the larger markets, while cold storage cars proceed to the Northwest.

Export.—Ontario has a great outlet for apples and pears in the markets of the British Isles, and a rapidly increasing demand for all her fruits in Northern Ontario and the Northwest Provinces. The latter parts, though excellent in grains, are too low in temperature to grow successfully such fruits as peaches, grapes, apples, pears, plums and cherries, and must therefore look beyond for their supply. Thus Ontario, even now unable to provide for the demand, has untold opportunities north and west.

Hundreds of cars of tender fruits are railed annually to the Prairie Provinces. Owing to the war, and the embargo against fruit shipments, exports to Great Britain, which once totalled hun-

dreds of thousands of barrels annually, have been cut off. This year, 1919, the trade is being resumed under favourable circumstances.

Canning Factories.—Over 70 factories, located at suitable transportation centres, are engaged in putting up fruits and vegetables in tin and glass. Great quantities of fruit are thus prepared, especially in the orchard sections, for sale throughout the Dominion, and for export to Great Britain and other parts of the world. It is no unusual thing for the fruit-grower to sell his entire crop before it is ready to handle. In these factories the producer has an invest-



Red and Black Grapes, Niagara District.

ment yielding from 10 to 20 per cent., and making an aggregate return of about \$2,000,000.

Co-operative Societies.—These associations, numbering over fifty, educate the fruit-growers in the care of their gardens and orchards and in the handling of their products. The sellers are thus in a position to guarantee the buyers that there is uniformity in the size and quality of their offerings. And they are thereby enabled to sell their products and to get high prices, whereas independent growers are sometimes placed at a decided disadvantage. These co-operative associations have been of great benefit to the trade throughout the Province.

Government Fruit Branch.—The sum of \$19,377.91 covers the principal field work of the Branch, including demonstrations and experiments of all kinds, and inspection of nurseries and orchards. Since 1914, five apple orchards of from 200 to 350 trees each have been operated by the Branch in different parts of the Province to try out various methods of pruning, spraying, cultivation, and crop handling. The latter line of work was interfered with seriously during the war owing to the desires of the Government to supply the Canadian hospitals in Europe with fresh fruit, resulting in our shipping the product of these orchards overseas for the past four years. It had been the intention to try out car lots of boxes in the Western markets and in Great Britain in comparison with the same quality of fruit in barrels. It was also felt that more of our good varieties packed in boxes should be placed on the markets of the larger cities in Ontario in competition with the Western product. These experiments may be again considered if the apple crop of 1919 warrants it. Five experienced men have been employed the greater part of the year in the carrying out of the experimental and demonstration work outlined.

An Act known as the Fruit Pests Act, has been part of our laws since the introduction into Ontario of the San José Scale. This Act was drafted for the protection of fruit growers against the spread of such insects and diseases as Codling Moth, San José Scale, Black Knot, Yellows and Little Peach, Pear Psylla, and Pear Blight, and any others of a dangerous character that may be introduced from time to time. The system of inspection of orchards is by municipal officers appointed locally, but supervised by Provincial officers. The Provincial Entomologist has charge of the work, aided by a chief inspector, and two permanent assistants. For investigational and nursery work, temporary help is employed during the summer months. The approximate cost of such work in 1918 was \$6,500.00.

Horticultural Experiment Station—\$30,015.20. This Station was started at Vineland in the heart of the Niagara Peninsula thirteen years ago, as the centre of all experimental work with fruits and vegetables. Orchard planting was begun in 1908, and plant breeding work some time later. At present there are about 150 acres under cultivation, orchards, vineyards, and small fruit plantations,

containing all the leading and new varieties, and thousands of seedlings from both natural and artificial breeding. Many valuable experiments are under way, and with the orchards now coming into bearing the visitor to the farm will find much of interest to him at all times.

The Station is equipped with greenhouses, packing house, general office building, cold storage, canning plant, residence for director, and houses for foreman, teamsters, etc. A central heating plant covers greenhouses, office building and director's residence. Several acres of land are under the Skinner Irrigation System, while a



Peach and Plum Orchard, and Vineyard, Niagara Peninsula.

pumping plant at the lake supplies water to all of the farm buildings. Two reports of the work being carried on have already been issued, while a third is now being prepared. Results of some of the experiments have been given from time to time in the Fruit Branch Circular. Six scientifically trained men are at present employed on the permanent staff.

In addition to the regular work for the past four years, the Branch has been active in supplying fresh and canned fruit to the Canadian hospitals in England and France as well as in the Dominion. Notices of this work have appeared from time to time

in the Circular, and in the report of the Station at Vineland a description of the factory and the quantities of various fruits canned and made into jam there. Over 100,000 boxes of apples and 28,000 cases of jams and canned fruits were disposed of in this way during the war. All the fruit sent overseas, including one car to Siberia, were gifts from the Province of Ontario to the soldiers. The expenditure during 1918 on this work was \$156,194.67.

Cost of Production.—The most important aspect of the fruit situation so far as the future of the industry is concerned is that relating to the cost of production. Growers will have to lower production costs if they are to stay in the business permanently.

The factors which determine cost of production in any given case are: The variety grown; the distribution of labour; the size of the producing unit; cultural methods, particularly the use of fertilizers; marketing facilities; the suitability of the soil, site and climate.

Aside from variety, labour is the most important single item entering into cost, and the most effective means of lowering the cost per box or barrel is so to arrange the farm scheme as to make the best use of labour. The labour of fruit growing is very seasonal and one of the greatest difficulties is to avoid the rush of certain seasons and provide profitable employment at other seasons. Labour is not often so ready to hand that it can be called in when wanted and dismissed when the job is finished, so that the real problem is to distribute the labour as uniformly as possible over the season, or better still over the full year.

It is possible in all branches of fruit growing to relieve the rush of fruit picking by selecting varieties which ripen in succession from early to late, and in many cases where winter apples are being handled the situation can be further alleviated by doing the grading and packing in the fruit house in winter time. It is possible also to distribute the labour over a long season and at the same time to include a very desirable measure of diversification without going outside the field of fruit growing. Some of the most successful fruit growers produce a general line of fruits, including apples, pears, plums, cherries, strawberries, raspberries, currants and gooseberries, and where climate permits, peaches and grapes as well. In fact, it seems that where it can be worked out completely or in part, this scheme is likely to be more satisfactory than any other. It

reduces the risks consequent upon putting all the eggs in one basket ; it distributes the labour over a wide range of season and it utilizes to the full the special knowledge, special skill and special machinery of the growers.

Price of Land.—The best apple lands, light or heavy, and ready for planting, can be bought throughout the Province for from \$40 to \$100 per acre.

Excellent peach and cherry lands in the Niagara district are



Strawberry Field.

from \$150 to \$300 per acre. But specially favoured locations run as high as from \$1,000 to \$1,200. Best grape lands in the same district, from \$50 to \$200 per acre. But here again special locations are much higher. Good land for plums and pears in the Niagara district average about the same as grape lands. The lighter types of soils in that district, which are used for peaches and cherries, are also used largely for the growing of raspberries and strawberries. The heavier soils produce the other small fruits, along with the grape, pear and plum, and prices rule accordingly.

In the newer districts along Lake Erie, light or peach soils may be purchased at prices ranging from \$50 to \$150 per acre, and heavy soils for the other fruits at from \$40 to \$100 per acre.

Generally throughout the Province, other than the tender-fruit districts, the lighter soils are used for the strawberry, raspberry, blackberry and sour cherry, while the heavier soils are given to the other fruits, including the pear and plum, and, subject to distance from shipping point, may be bought at from \$30 to \$150 per acre.



Apple Orchard, Colborne Township, Huron County.

Opportunities for Investment.—The capital already invested in the field of fruit is \$75,000,000. And the opportunity for further investment is great. Other conditions equal, the outlet for profitable venture is meantime hard to limit. Although three-quarters of all the fruit of Canada is grown in Ontario, this industry of the Province is still in comparative infancy. The fruit area is of vast extent, including immense unplanted stretches suitable for apples, fine in quality and of great variety, and withal the fruit in most demand. The soil is rich, varied and well watered. The climate

is good, in certain parts ideal. Cultured and prosperous, with the conveniences and amenities of modern civilization, the Province occupies a central and commanding position in the matter of splendid markets. Provincial Government information and institutions, fruit-growing associations and co-operative organizations all tend to guide and safeguard the interests of the investor from the first throughout. Honest effort meets with success. And labour-saving machinery modifies or removes the drudgery of a life at once helpful and independent.

At the annual convention of the Fruit Growers' Association held at Toronto in February, 1919, President R. W. Grierson said:

"Very few apple orchards have had the necessary care and attention during the war, and many will never recover from the neglect, so that it looks as if the prospects might be good for the man who has taken care of his orchard. As quite a large section of our Province is so suitable for growing apples of such excellent flavour, and the cost of production is no greater, if as great, as in other parts of the world, we should make an effort to produce not only as a duty to ourselves, but as a greater national duty, on account of the immense increase in our national debt. As the great bulk of our apples are grown on farms where general farming is carried on, and as apples could not be exported to Great Britain during the war, there was not the same effort made by the growers to produce a crop, but much more attention was given to the growing of more necessary food products; but now that we have the European markets back, and as large numbers of fruit trees were destroyed over there, the demand should be good for many years to come. While apple orchards of twenty-five to one hundred acres may be successfully handled by some men, I believe that the majority of farmers should confine themselves to ten or fifteen acres of apples of good quality, and by a proper rotation of crops and by keeping all the live stock the farm will carry, the orchard, as well as the farm, could be kept up, and the revenue very much increased. No doubt the uncertainty of being able to market an apple crop, and the certainty of high prices for other food products, was the principal cause of the neglect of the apple orchard in Ontario, but with much lower prices in the near future for all kinds of farm produce, and better prospects for help, greater attention will be given to the orchard as the best paying branch on the farm. Of course, freight rates would have to come back to normal conditions again, and express rates remain as they have been for a number of years, if the fruit industry is going to continue a success."

At the Convention of Fruit Growers held at the Exhibition grounds, Toronto, in November, 1919, President Johnson, Simcoe, urged that they must produce more and, if possible, better fruit, if they are to grasp the golden opportunities. "Make up the ground that has been lost during the war," he said. "Take a fresh hold of your business, for there will be a big demand for good fruits."

The Effects of the War.—For several years before the war, the fruit growers were well organized and prosperous. While prices

were not high, the tendency had been gradually higher and crops were normal. In 1914, the peach crop was a practical failure, while the apple crop was the heaviest known in years. Harvesting began soon after war broke out, and owing to the terrible confusion of that fall, prices fell below all records, with the result that immense quantities were wasted. Then followed three years of light crops of poor quality but higher prices, with severe winter injury of all fruits in 1914-15. With the calling to the army of most of the young men from the farms, the orchards had of necessity to



In the Apple Orchard.

suffer from neglect, as the call from the nation was for more essential food-stuffs. Much of the work of the Department of Agriculture in encouraging fruit growing was lost.

However, there was some encouragement, as prices for small fruits and canning factory products increased rapidly as the world's supply of these goods was absorbed by the armies. A heavy demand for all kinds of fruits since the Armistice was signed has further stimulated production, and we may look forward to a quick return to the normal conditions existing before the war.

VEGETABLE GROWING

Ontario is well suited for the production of all classes of vegetables, although there are different districts in the Province more suitable than others. The industry is large. It is in operation around the larger cities, and in a portion of the Province south of a line drawn from Toronto to Guelph and Goderich. The greater part of the industry is in this section, and there is still a large area of suitable land available at very reasonable prices. The growing



Field of Beans.

population of our cities and the excellent shipping facilities to the Western Provinces give us a fine market for anything that may be grown for a considerable period of years. There is a splendid opening in this section of Ontario for any who wish to follow this line of agriculture; the only drawback would be the want of knowledge of vegetable growing which hinders many from starting into the business. About 125,000 acres of land are being used for intensive market gardening, a large share of which is situated in

this western section of the Province. There is also a big opening for men who understand the greenhouse end of the business. This part is just being opened up in Ontario, and the possibilities are very good for anyone who understands it.

Men not previously acquainted with vegetable growing have made a success of it.

Two brothers who were bakers in a small Ontario town gave up their business and bought a small 50-acre farm. To-day, fifteen



Cauliflower Field.

years later, these brothers own 250 acres of land, practically all of which is planted in vegetables, strawberries, and raspberries. They possess a large canning factory on their own place, and they await better railroad facilities to have their business enlarged.

Another man, living about two miles from one of our border towns, was a fisherman by profession. Some six years ago he gave up this work and bought fifteen acres of land. To-day he has paid for this land and is getting ready to install an irrigation sys-

tem which will cost him \$400 per acre. He says he could afford to pay \$800 per acre for it.

Still another man, a druggist by profession, who was unable to stand inside work, was offered twelve acres of land near a large city at a rental of \$10 per acre. To-day, seven years later, this man is paying a rental of \$100 per acre.

These are only a few small examples of what can be done throughout the Province if a man has willingness and adaptability.

TOBACCO

The rich soil and warm climate of the southern border counties appear favourable to the production of excellent grades of tobacco. Essex and Kent are the two main counties engaged in this industry, although many other sections are taking it up. In 1911 about 20,000 acres were under cultivation, with a yield of 26,000,000 pounds and a value of \$9,100,000. Many kinds of tobacco are grown, but the White Burley predominates. The complete cost of cultivation is practically \$75 per acre, and the average crop is 1,300 pounds per acre. In 1919 the acreage of White Burley and all cured types was 7,776; the yield, 9,409,400 pounds, and the price, 35 to 44 cents per lb.; the acreage of Flue cured was 1,450; the yield, 1,300,000 pounds, and the price, 58 to 70 cents per lb. The industry is one of the most profitable in South-western Ontario.

FIBRE FLAX

Ontario offers peculiar advantages for the production of fibre flax, and since the outbreak of the Great War the industry has made a wonderful development. In 1913 but 2,000 acres of fibre flax were under cultivation and five scutch mills in operation. In 1920 over 25,000 acres of flax will be sown and over forty mills in operation. Three hundred pounds of fibre and eight bushels of seed per statute acre are considered average yields, but with good cultivation 500 pounds of fibre and twelve to fifteen bushels of seed have been secured on large areas. In Ontario both fibre and fibre seed for sowing purposes are produced on the one crop. The fibre and tow have been marketed to some extent in Ireland, but mainly in the

United States. The seed since 1916 has all been sold in Ireland, where it relieved an acute shortage of sowing seed.

The districts particularly adapted to flax culture in Ontario are the southwestern peninsula between Lakes Huron and Erie, the north shore district of Lake Ontario, and the St. Lawrence River Valley. Here many thousands of acres of land may be secured upon very reasonable terms for flax production purposes. The industry is profitable, the demand for flax fibre is very large, and years will elapse before the present world-shortage is relieved. For the person with experience in the flax business and with moderate capital Ontario offers a great opportunity.



Fibre Flax, grown near Oshawa.

(12 bushels of seed per acre and 500 pounds of fibre.)

* AGRICULTURAL STATISTICS

Rural Area Assessed

Year.	Acres of assessed land.	Acres cleared.	Acres of woodland.	Acres of slash land	Acres of swamp-marsh or waste land.	Per cent. cleared.
1918	25,157,793	14,798,693	4,937,440	2,772,100	2,649,560	58.82
1917	25,045,029	14,728,014	4,835,474	2,751,208	2,730,333	58.81
1916	25,088,035	14,698,648	4,830,938	2,794,701	2,763,748	58.59
1915	25,014,335	14,620,739	4,950,554	2,686,242	2,756,800	58.45
1914	24,935,350	14,595,068	5,066,783	2,487,396	2,786,103	58.53
1913	24,914,027	14,515,128	5,010,284	2,488,879	2,899,736	58.26

Farm Produce—Area, yield and market value

Year.	Fall Wheat.				Spring Wheat.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				\$				\$
1918.....	362,616	7,054,845	19.5	14,877,794	351,423	8,186,191	23.3	17,076,203
1917.....	585,946	13,384,207	22.8	28,078,738	182,957	3,679,516	20.1	7,716,693
1916.....	704,867	14,942,050	21.2	24,099,591	144,305	2,213,961	15.3	3,591,681
1915.....	811,185	24,727,011	30.5	24,023,286	162,142	3,439,949	21.2	3,392,996
Averages:								
1902-1911	720,272	16,912,017	23.5	14,142,444	182,335	2,269,976	17.9	2,655,591
1892-1901	920,794	18,688,313	20.1	12,650,091	356,355	5,405,846	15.2	3,650,840
1882-1891	902,846	18,059,235	20.0	16,250,884	563,547	8,882,998	15.8	7,959,306
Average (37 years):								
1882-1918	813,401	17,346,835	21.3	15,296,791	330,310	5,395,907	16.3	4,882,875

Year.	Barley.				Oats.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				\$				\$
1918.....	660,404	24,247,673	36.7	25,112,912	2,924,468	131,752,601	45.1	98,798,745
1917.....	551,298	18,387,741	33.4	23,118,166	2,763,355	111,232,817	40.3	86,640,057
1916.....	527,886	12,388,969	23.5	12,621,940	2,689,762	71,297,528	26.5	47,066,428
1915.....	552,318	19,893,129	36.0	11,130,811	2,871,555	120,217,952	41.9	47,452,121
Average (10 years):								
1902-1911.....	711,199	21,709,056	30.5	10,870,736	2,703,900	98,968,442	36.6	36,309,289
1892-1901.....	498,932	13,100,823	26.3	5,037,546	2,291,902	79,229,462	34.6	22,119,649
1882-1891.....	743,245	19,349,351	26.0	10,547,091	1,663,205	58,410,603	35.1	21,017,492
Average (37 years):								
1882-1918.....	639,897	18,164,724	28.4	9,989,461	2,322,094	83,811,405	36.1	32,432,465

* Ontario Statistics and Publications Branch of the Department of Agriculture.

Farm Produce—Area, yield and market value—*Con.*

Year.	Peas.				Beans.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				\$				\$
1918.....	113,862	2,381,937	20.9	5,184,332	100,082	1,387,834	13.9	6,230,007
1917.....	90,322	1,512,567	16.7	4,855,888	110,680	1,078,510	9.7	7,446,626
1916.....	95,542	1,243,979	13.4	2,618,754	53,999	583,105	10.8	3,183,086
1915.....	126,943	2,043,049	16.1	2,302,641	62,863	882,819	14.0	2,745,106
Averages (10 years):								
1902-1911	389,104	7,056,642	18.1	5,275,196	50,006	854,969	17.1	1,263,012
1892-1901	769,819	14,242,404	18.5	7,613,480	51,654	875,597	17.0	818,381
1882-1891	668,962	13,908,658	20.8	8,573,501	26,201	469,393	17.9	545,087
Average (37 years):								
1882-1918	521,140	9,963,336	19.1	6,522,277	48,479	783,011	16.2	1,396,652

Year.	Rye.				Buckwheat.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				\$				\$
1918.....	112,726	1,812,909	16.1	2,750,561	223,662	4,597,990	20.6	6,207,986
1917.....	133,077	2,222,325	16.7	3,614,591	153,457	2,992,391	19.5	4,278,256
1916.....	148,738	2,354,410	15.8	2,797,290	229,205	3,261,888	14.2	3,555,699
1915.....	173,736	3,210,512	18.5	2,532,051	193,497	4,278,366	22.1	3,057,398
Averages (10 years):								
1901-1911	112,424	1,877,432	16.7	1,129,754	131,168	2,871,668	21.9	1,503,428
1892-1901	129,188	2,088,786	16.2	937,885	131,005	2,450,389	18.7	949,189
1882-1891	103,636	1,683,211	16.2	1,010,057	69,230	1,413,900	20.4	586,472
Average (37 years):								
1882-1918	118,488	1,952,147	16.5	1,271,203	127,709	2,599,158	20.4	1,514,356

Year.	Corn for husking.				*Corn for Silo.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Tons green.	Per acre.	Market value.
				\$				\$
1918.....	195,310	13,015,072	66.6	13,650,415	380,946	3,944,313	10.35	17,749,409
1917.....	258,935	11,513,512	44.5	14,278,407	511,329	4,587,176	8.97	18,348,704
1916.....	258,332	12,717,072	49.2	9,446,060	439,411	3,276,185	7.46	10,647,610
1915.....	309,773	21,760,496	70.2	9,885,292	443,736	4,874,377	10.98	12,185,943
Averages (10 years):								
1902-1911	325,515	22,988,755	70.6	8,780,681	236,330	2,731,936	11.56	5,652,083
1892-1901	294,076	21,218,057	72.2	5,314,705	157,611	1,777,533	11.28	3,555,065
Average (27 years):								
1892-1918	300,378	21,055,189	70.1	8,020,170	255,520	2,761,367	10.1	6,776,058

* The combined average for corn for the ten years 1882-1891 was 195,878 acres, the average value of the produce for the same period being \$3,704,614. The combined average for corn for the thirty-seven years 1882-1918 is 458,595 acres, the average value of the produce for the same period being \$11,798,494.

Farm Produce—Area, yield and market value—*Con.*

Year.	Potatoes.				Carrots.			
	Acres.	Bushels	Per acre	Market value.	Acres.	Bushels.	Per acre	Market value
				\$				\$
1918.....	166,203	19,375,947	116.6	19,238,431	2,706	689,557	255	172,389
1917.....	146,481	18,291,735	124.9	22,530,291	2,920	758,292	260	151,658
1916.....	139,523	7,408,429	53.1	9,684,215	2,391	331,124	138	46,357
1915.....	173,934	13,267,023	76.3	10,805,026	2,439	686,232	281	85,779
Averages (10 yrs.):								
1902-1911	153,092	17,355,152	113.4	8,928,246	5,243	1,688,002	322	211,000
1892-1901	164,451	18,304,638	111.3	6,150,629	11,163	3,880,538	348	485,068
1882-1891	155,449	18,840,683	121.2	8,476,165	10,243	3,659,347	351	457,417
Average (37 yrs.):								
1882-1918	157,897	18,119,891	114.8	9,061,470	7,739	2,617,553	338	331,195

Year.	Mangels.				Turnips.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre	Market value.
				\$				\$
1918.....	40,714	18,244,453	448	4,561,113	85,449	42,190,382	494	10,547,596
1917.....	49,148	19,492,626	397	3,898,525	93,034	39,989,556	430	7,997,911
1916.....	42,793	9,756,015	228	1,365,842	91,670	24,067,699	263	3,369,478
1915.....	50,799	25,356,323	498	2,028,505	97,451	46,598,851	478	4,659,885
Averages (10 years)								
1902-1911	70,809	33,245,680	470	2,659,654	123,855	54,987,697	444	5,498,770
1892-1901	39,984	17,864,726	447	1,429,178	147,080	63,424,431	431	6,342,443
1882-1891	19,546	8,538,096	437	683,048	104,943	42,981,280	410	4,298,128
Average (37 years):								
1882-1918	44,654	20,118,403	451	1,772,338	119,482	51,474,831	431	5,452,624

Year.	Sugar Beets.				Mixed Grains.			
	Acres.	Bushels	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				\$				\$
1918.....	22,894	9,398,141	411	2,349,535	619,389	27,462,374	44.3	28,253,556
1917.....	22,039	6,781,113	308	1,356,223	515,593	20,102,421	39.0	20,876,501
1916.....	22,482	6,023,938	268	843,351	485,986	13,297,354	27.4	12,485,065
1915.....	22,890	8,644,281	378	1,080,535	475,738	19,461,609	40.9	10,602,271
1914.....	18,534	7,466,819	403	933,352	456,631	16,854,550	36.9	10,074,687
1913.....	19,083	6,389,177	335	798,647	414,517	15,113,480	36.5	7,953,111
1912.....	21,054	7,819,066	371	977,383	448,402	16,382,161	36.5	8,674,724
1911.....	24,664	8,941,659	363	1,117,707	486,112	14,845,595	30.5	9,104,141
1910.....	26,879	11,238,577	418	1,348,629	497,936	18,261,803	36.7	9,187,822
Average (11 years):								
1907-1917	21,220	7,912,177	373	1,122,880	481,165	17,294,803	35.9	11,857,779

Farm Produce—Area, yield and market value—*Con.*

Year.	Hay and Clover (including Alfalfa)				*All Field Crops.		
	Acres.	Tons.	Per acre.	Market value.	Acres.	Value	Per acre.
				\$		\$	\$ c.
1918.....	3,614,046	4,925,825	1.36	89,924,011	9,992,825	363,909,778	36 42
1917.....	3,547,688	6,619,296	1.87	78,166,203	9,718,259	333,353,438	34 30
1916.....	3,471,984	7,200,047	2.07	76,326,501	9,548,876	223,748,948	23 43
1915.....	3,231,752	4,253,763	1.32	61,704,769	9,762,951	210,674,415	21 58
Averages (10 years):							
1902-1911	3,072,288	4,722,662	1.54	47,093,908	9,233,879	156,824,689	16 98
1892-1901	2,520,783	3,650,840	1.45	29,085,813	8,494,796	106,139,762	12 49
1882-1891	2,290,495	3,102,733	1.35	32,086,445	7,517,606	116,195,708	15 48
Average (37 years):							
1882-1918	2,781,428	4,074,300	1.46	42,093,311	8,654,680	148,018,560	17 10

* Including for 1918 only 15,925 acres of flax, producing 196,221 bushels of seed, or 12.3 bush. per acre. A large portion of the crop was commandeered by the Dominion Government. The estimated value of flax seed is placed at \$1,224,783.

Summer Fallow. Pasture, Fruit

Year.	Summer fallow.	Pasture	Orchard.	Small Fruits.	Vineyard	Garden
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918.....	248,463	3,561,754	265,678	24,596	.....	.....
1917.....	232,679	3,509,945	280,326	21,964	9,882	58,297
1916.....	331,736	3,409,581	280,653	22,817	9,807	57,107
1915.....	226,217	3,350,420	288,825	23,443	10,276	57,774
1914.....	268,714	3,302,503	298,627	23,863	10,850	58,167
1913.....	268,487	3,120,146	306,764	24,360	11,136	55,029
1912.....	278,317	3,082,671	310,096	24,699	11,634	56,716
1911.....	279,220	3,116,768	303,188	25,360	11,586	58,748
1910.....	254,038	3,159,712	298,347	24,384	11,390	57,982

Ratios of Areas Under Crop per 1000 Acres

Year.	Fall Wheat	Spring Wheat.	Barley.	Oats.	Peas.	Beans.	Rye.	Buck-wheat	Corn.	Potatoes.	Roots.	Hay and Clover.	Mixed Grains.
1918.....	24.5	23.8	44.6	197.6	7.7	6.8	7.6	15.1	38.9	11.2	10.3	244.2	41.9
1917.....	39.8	12.4	37.4	187.6	6.1	7.5	9.0	10.4	52.3	10.0	11.4	240.9	35.0
1916.....	47.9	9.8	35.9	183.0	6.5	3.7	10.1	15.6	47.5	9.5	10.8	236.2	33.1
1915.....	55.5	11.1	37.8	196.4	8.7	4.3	11.9	13.2	51.5	11.9	11.9	221.0	32.5
Average (10 years):													
1902-1911	51.3	13.0	50.7	192.8	27.7	3.6	8.0	9.4	40.1	10.9	15.8	219.0	†33.1
1892-1901	73.2	28.0	39.2	180.2	60.5	4.1	10.1	10.3	35.5	12.9	15.6	198.2	.....
1882-1891	81.6	50.9	67.2	150.4	60.5	2.4	9.4	6.2	17.7	14.0	12.2	207.1	.....
Average (37 years):													
1882-1918.....	62.6	25.4	49.3	178.8	40.1	3.7	9.1	9.8	35.3	12.2	14.7	214.2	†37.1

† Average for 5 years.

‡ Average for 12 years.

Market Prices per Bushel or per Ton

Year.	Fall Wheat, per bush.	Spring Wheat, per bush.	Barley, per bush.	Oats, per bush.	Peas, per bush.	Beans, per bush.	Rye, per bush.	Buckwheat, per bush.	Corn (in ear) per bush.	Hay, per ton.	Potatoes, per bush.
	cts.	cts.	cts.	cts.	cts.	\$ c.	cts.	cts.	cts.	\$ c.	cts.
1918.....	210.9	208.6	103.6	75.0	217.7	4 49	151.7	135.0	104.9	18 13	99.3
1917.....	209.8	209.7	125.7	77.9	321.0	6 91	162.6	142.9	124.0	11 81	123.2
1916.....	161.3	162.2	101.9	66.0	210.5	5 46	118.8	109.0	74.3	10 60	130.1
1915.....	97.1	98.6	56.0	39.5	161.6	3 11	78.9	71.5	45.4	14 51	81.4
Averages (10 yrs.):											
1902-1911.....	83.6	81.2	50.1	36.7	74.8	1 48	60.2	52.4	38.2	9 97	51.4
1892-1901.....	67.8	67.5	38.5	27.9	53.5	93	44.9	38.7	25.0	7 97	33.6
1882-1891.....	90.0	89.6	54.5	34.3	61.6	1 16	60.0	41.5	.....	10 34	45.0
Average (37 yrs.):											
1882-1918.....	88.2	90.5	55.0	38.7	65.5	1 78	65.1	58.3	*38.1	10 33	50.0

* Average for 27 years, 1892-1918.

Horses and Cattle.

Year.	Horses all ages.				Cattle.	
	Number on hand.	Value.	Horses sold.		Milch cows on hand.	
			Number.	Value.	Number.	Value.
		\$		\$		\$
1918.....	732,977	95,710,923	80,984	11,019,354	1,097,039	91,662,681
1917.....	765,873	99,439,558	83,194	11,442,831	1,069,338	80,774,341
1916.....	775,732	101,434,391	78,119	10,684,992	1,045,029	69,337,793
1915.....	779,131	107,982,037	75,527	11,003,822	1,032,518	62,196,964
1914.....	774,544	112,576,793	80,872	12,480,960	1,006,703	57,396,788
1913.....	751,726	113,240,047	96,841	15,507,934	1,032,039	52,176,881

Year.	Cattle.					
	Other cattle on hand.		Total on hand.		Sold or slaughtered.	
	Number.	Value.	Number.	Value.	Number.	Value.
		\$		\$		\$
1918.....	1,770,683	80,596,580	2,867,722	172,259,261	932,691	57,529,269
1917.....	1,758,271	69,535,487	2,827,609	150,309,828	903,184	52,893,615
1916.....	1,689,738	58,986,733	2,734,767	128,324,526	878,540	46,987,563
1915.....	1,652,228	53,166,372	2,674,746	115,363,336	875,394	43,678,233
1914.....	1,597,925	49,238,360	2,604,628	106,635,148	911,794	42,978,531
1913.....	1,596,806	43,582,141	2,628,845	95,759,022	880,303	38,751,801

Sheep, Swine and Poultry

Year.	Sheep and Lambs.				Swine.	
	Number on hand.	Value.	Sold or slaughtered.		Number on hand.	Value.
			Number.	Value.		
		\$		\$		\$
1918.....	972,341	15,690,055	449,268	5,877,375	1,656,386	31,140,181
1917.....	956,986	9,946,030	463,576	4,240,803	1,664,639	21,464,366
1916.....	908,066	7,386,710	475,406	3,588,522	1,735,254	18,790,755
1915.....	908,095	6,403,907	489,320	3,289,701	1,769,295	17,562,726
1914.....	922,375	6,155,451	512,066	3,219,409	1,770,533	17,951,258
1913.....	996,155	6,242,672	534,311	3,163,752	1,618,734	15,393,192

Year.	Swine.		Poultry of all classes.			
	Sold or slaughtered.		Number on hand.	Value.	Sold or slaughtered.	
	Number.	Value.			Number.	Value.
		\$		\$		\$
1918.....	2,130,060	46,997,183	12,281,102	9,307,051	6,516,460	5,318,857
1917.....	2,187,999	41,609,181	13,606,293	8,517,195	6,806,531	4,554,451
1916.....	2,105,621	33,671,966	14,377,844	7,933,157	6,774,884	4,226,038
1915.....	2,110,936	31,628,772	14,273,091	7,670,326	6,764,069	4,161,695
1914.....	1,984,105	30,275,538	14,175,214	7,551,428	6,575,434	4,062,797
1913.....	2,078,462	28,378,551	13,511,383	6,956,952	6,325,007	3,848,973

Year.	Wool Clip.	Poultry on hand.				Total value of Live Stock sold or killed.
		Turkeys.	Geese.	Ducks.	Other fowl.	
	lbs.	No.	No.	No.	No.	\$
1918.....	.....	376,609	412,214	392,001	11,100,281	126,742,033
1917.....	3,719,930	439,215	389,659	480,263	12,297,155	114,740,881
1916.....	3,380,251	557,929	408,046	586,705	12,825,164	99,159,081
1915.....	3,333,768	674,494	416,414	545,813	12,636,370	93,762,233
1914.....	3,370,225	744,096	425,300	586,654	12,419,164	93,017,235
1913.....	3,647,245	699,861	389,173	497,734	11,924,615	89,651,116

Farm Property, Implements and Live Stock

Year.	Land.	Buildings.	Implements.	Live Stock on hand.	Total.
	\$	\$	\$	\$	\$
1918.....	819,164,297	380,244,880	109,896,874	324,107,476	1,633,414,527
1917.....	807,426,986	370,384,055	104,581,053	289,676,977	1,572,069,071
1916.....	794,676,866	357,313,850	98,020,295	263,869,539	1,513,880,550
1915.....	794,393,564	352,628,031	95,049,350	254,982,332	1,497,053,277
1914.....	790,528,706	347,348,643	91,703,876	250,870,078	1,480,461,303
1913.....	782,993,853	345,303,335	89,702,273	237,591,885	1,455,591,346

TORONTO MARKETS

(The Globe's Comparative Tables.)

Live Stock, Representative prices.	April 4th, 1913.	April 4th, 1919.
Heavy export steers, choice.....	\$6 75 to \$7 10	\$14 50 to \$15 50
Heavy export steers, medium.....	5 85 to 6 50	12 00 to 13 00
Butchers' steers and heifers, choice.	6 75 to 7 10	11 00 to 12 50
Butchers' steers and heifers, good..	6 40 to 6 75	9 50 to 10 50
Butchers' steers and heifers, medium	5 85 to 6 40	8 00 to 9 00
Butchers' steers and heifers, common	5 00 to 5 75	6 50 to 7 75
Butcher cows, choice	5 25 to 5 85	11 00 to 12 00
Butcher cows, good	4 75 to 5 25	9 00 to 10 50
Butcher cows, medium	4 25 to 4 75	8 00 to 8 75
Butcher cows, common	3 00 to 3 75	7 00 to 7 75
Butcher bulls, choice	5 25 to 5 85	11 00 to 12 00
Butcher bulls, good	4 75 to 5 25	9 00 to 10 50
Butcher bulls, common	3 00 to 4 00	7 00 to 7 75
Feeders, best	5 00 to 5 85	10 00 to 12 00
Stockers, best	5 00 to 5 85	9 00 to 12 50
Canners	2 25 to 2 75	5 25 to 5 75
Milkers, choice, each	50 00 to 70 00	130 00 to 150 00
Milkers, common and medium, each	30 00 to 45 00	65 00 to 110 00
Calves, choice	8 00 to 9 50	16 00 to 17 75
Lambs, choice	8 00 to 9 50	18 00 to 20 00
Sheep, choice, handy	6 50 to 7 25	13 00 to 15 00
Sheep, heavy and fat bucks	3 00 to 6 50	6 00 to 10 00
Hogs, fed and watered	9 85 to	20 00 to 20 25
Hogs, f.o.b.	9 50 to	19 25 to 19 50
Sows, f.o.b.	8 00 to	14 25 to 17 50

Produce, Wholesale.	October 1st, 1912.	October 1st, 1919.
Eggs, new laid, per doz.	\$0 28	\$0 54 to \$0 55
Cheese, large, new	0 14 ³ / ₄ to \$0 15	0 28 ¹ / ₂ to 0 29
Butter, creamery prints	0 28 to 0 29	0 53 to 0 53 ¹ / ₂
Butter, dairy prints	0 25 to 0 26	0 49 to 0 50
Butter, inferior (bakers')	0 22 to 0 23	0 40
Honey, buckwheat	0 07	0 18 to 0 20
Honey, strained, clover	0 11 to 0 12	0 23 to 0 25
Poultry, live chickens, per lb....	0 13 to 0 14	0 20 to 0 24
Poultry, ducklings, per lb.	0 11 to 0 12	0 20
Poultry, live turkeys, per lb.	0 15 to 0 16	0 30
Beans, hand picked		
Potatoes, new, per bag	0 70 to 0 75	2 10

Produce, Retail.	April 4th, 1913.	April 4th, 1919.
Fall wheat, per bus.	\$0 92 to \$0 95	\$2 13 to
Oats, per bus.	0 39	
Goose wheat, per bus.	0 88 to 0 90	2 08
Barley, per bus.	0 58 to 0 60	0 98 to 1 00
Rye, per bus.	0 65	1 65
Peas, per bus.	1 00 to 1 10	1 70
Hay, timothy, per ton	15 00 to 17 00	26 00 to 28 00
Clover and mixed hay	13 00 to 14 00	22 00 to 25 00
Eggs (new laid), per doz.	0 25 to 0 27	0 40 to 0 4 ¹ / ₂
Butter, choice dairy, per lb.	0 30 to 0 35	0 45 to 0 47
Chickens, per lb.	0 25	0 32

Produce, Retail.		April 4th, 1913.	April 4th, 1919.
Geese, per lb.		\$0 18 to \$0 20	\$0 25
Ducks, per lb.		0 25	0 38
Turkeys, per lb.		0 25 to 0 28	0 41
Potatoes, per bag		0 95 to 1 00	1 35 to 1 40

Fruit Market, Wholesale.		April 4th, 1913.	April 4th, 1919.
Apples, per bbl.		\$2 00 to \$3 00	\$10 00 to \$11 00
Spies, No. 1, barrel		3 50 to 4 00	12 00 to 13 00
Spies, No. 2, barrel		3 00 to 3 25	10 00 to 11 00
Spies, No. 3, barrel		2 00 to 2 25	4 50 to 5 00
Baldwins		3 00	7 00 to 10 00
Oranges, navel, crate		3 75 to 4 75	5 50 to 7 50
Lemons, crate		3 75 to 4 25	4 50 to 5 00

Fruit Market, Wholesale.		Oct. 1st, 1912.	Oct. 1st, 1919.
Cantaloupes, case		\$0 75 to \$1 00	
Cantaloupes, 20 qt. basket		0 35 to 0 40	\$0 65 to \$1 00
Watermelons		0 45 to 0 55	1 00 to 1 15
Oranges, Valencia, crate		4 00 to 4 75	6 00 to 7 00
Lemons, crate		5 00 to 6 50	6 50 to 7 00
Peaches, Cal., basket		0 50 to 0 65	1 65 to 1 85
Peaches, Canadian, basket		0 25 to 0 35	0 75 to 1 00
Tomatoes, domestic, basket		0 20 to 0 25	0 25 to 0 30
California pears, box		3 00	4 25 to 4 75
Celery, dozen		0 25 to 0 35	0 40 to 0 60
Pears, domestic		0 60 to 0 75	0 75 to 1 00
Plums, 11 qt.		0 60 to 0 75	1 65 to 1 75
Grapes, 6 qt.		0 20 to 0 25	0 35 to 0 40
Gherkins, basket		0 75 to 1 00	1 00 to 2 00
Cucumbers, basket		0 25	0 25 to 0 30

UNION STOCK YARDS, MARCH 11th, 1920

Liquidation of cattle to the Union Stock Yards here was considerably less last month than during the same month in 1919. A similar condition was apparent at all the Canadian markets. For instance, at Toronto, in February, 1919, the receipts of cattle totalled 28,528, while last month there was just 17,822, while for the Dominion, last year, they totalled 62,520, and last month 41,331. For the year to date the cattle receipts at the local market were 11,418 less than they were for the same period last year. Of the cattle received locally in February, 13,115 were bought by packers, 2,063 by local butchers, 1,481 shipped back to country points, and 1,004 shipped to the U.S.A.

AGRICULTURAL INSTITUTIONS

The Agricultural College and Experimental Farm

This institution, established in Guelph in 1874, is maintained by the Province of Ontario. There are seventy professors, lecturers, demonstrators and other officers in the faculty of instruction, including those of the Macdonald Institute, and they deal with such subjects as field, dairy, poultry and animal husbandry; veterinary science; and every other subject at the basis of a scientific agriculture; also manual training, home economics, and others. The aim is the education of farmers' sons in scientific and practical



Ontario Agricultural College, Guelph.

agriculture and of young women in domestic science. The regular courses of study are of two and four years' duration. Students come from all parts of the world. Notwithstanding the war, there were 1,791 in attendance during the calendar year 1919. Besides attending lectures, the pupils do farm work every alternate afternoon. The Farm covers an area of 700 acres, and there are all kinds of stock—beef and dairy cattle, horses, sheep, swine and poultry—with well-equipped departments representative of each class, while bee-keeping, fruit and vegetable growing are also given due prominence. Among many other benefits shown, the Farm demonstrates, for example, what are the best crops for the Province, and the College unfolds that evidence to the students. A few illustrations follow: "It is believed that the O.A.C. No. 21 barley is

the best variety which is now being grown on the farms of Ontario, and that it is produced more extensively than any other variety in this Province." Again, "Simply the difference in the average amount of hull of the Joannette and the Pioneer varieties of oats, as represented in these experiments, if applied to the whole of Ontario, would make a difference in the annual value of the oats grown in the Province of fully four million dollars." Further, "In the average results for the fourteen years the alfalfa has produced an annual yield of upwards of twenty tons of green crop, and of nearly five tons of hay per acre." Moreover, in the matter of crop for permanent pasture, "There is one plot of this mixture in the Experimental Department which was seeded fifteen years ago, and which has produced crops annually during that period of time." "Another plot of a similar nature remained twelve years after it was first seeded. The crop was converted into hay each year, and during the eleven years in which it was cropped it produced an average of a little over five tons per acre per annum." And it has been proven that by using plump or larger seed there will in ordinary circumstances be a yield of 20 per cent. more crop than if the seed were small or broken as they came from the fanning mill. In other departments, such as Chemistry, treating of fertilizers, cattle feeds, well water, etc.; Entomology, of insect pests, etc.; Botany, of weeds, fungus diseases, etc.; Bacteriology, of seed inoculation, etc.; Dairy Husbandry, of cow testing, milk and cream testing, and so on, the information is all in the line of practical progress. In the department of Physics, and on the subject of drainage, it may be said that perhaps no single line of development presents such possibilities. Since 1906 the staff of the College had drained over 50,000 acres in the Province, and through the demonstrations given, the farmers themselves had drained about 150,000 acres. According to reports received from farmers, that drainage had increased the yield about \$20 per acre, with the result that the annual return is now \$3,000,000 better. As increase in drainage continues these figures must be largely increased. There are at least twenty-five to thirty million acres of land in Old and New Ontario to be drained, much of which till then is entirely useless, and the remainder only partially productive. And when this drainage is completed the value of all Ontario's farm products will not be counted in millions but in billions of dollars. In the Department of Forestry, it is stated that Southern Ontario has 20,000

square miles with nine per cent. of inferior woodland, yielding only a small revenue. Much may be urged in favour of the policy of reforesting the waste land. It will ensure a supply of wood, protect the headwaters of rivers, provide breeding ground for game, afford object lessons in forestry, pay financially, and give the people an opportunity of development in conditions obviating failure and making success.



Exhibit of Ontario Agricultural College at C. N. Exhibition.

Additional to the regular courses, there are short courses of from two to four weeks' duration during the winter months. Hundreds of farmers attend these courses and highly appreciate them. Returning in June with Farmers' Institute excursions, they see the results of spring planting, elicit information by questioning, and manifest intense interest. Many a boy attending such study for the first time is encouraged to come back to the College later on for regular work.

Summer Courses at the College for rural school teachers give them a great inspiration on their return to the country schools. These courses are under the direction of the Provincial Department

of Education. Over 500 teachers attended the summer course in 1919. Followed up by correspondence, magazines and other literature, the influence of this work on rural teaching must accomplish much among the school children in country places of the Province.

Thousands of farmers visit the Experimental Farm during the summer. They are conducted over the grounds, where the work is explained and some of the most important results emphasized.

The quantity of instructive literature distributed throughout the Province is such that if practically applied it would double or treble the annual output of the farm.

Besides the College at Guelph there is a Horticultural Experiment Station at Vineland, Niagara District, a well-equipped dairy school at Kingston, and an Experimental Farm at Monteith, Northern Ontario.



Macdonald Institute and Macdonald Hall, Guelph.

Macdonald Institute

This Institute, the gift of Sir William Macdonald, of Montreal, is connected with the Agricultural College, Guelph, and is maintained by the Province. Its equipment and accommodation is ample to furnish long and short courses in Home Economics. The Home Economics course is for farmers' daughters and other young women who desire to learn the theory and practice of cooking, general housekeeping, laundry work, sewing, dressmaking, millinery, home decoration, etc. The education afforded by the Institute is a great aid in the lessening of drudgery in the home.

Total number of students in 1919, 324.

Kemptville Agricultural School

The Kemptville Agricultural School, the farms in connection with which were purchased in the spring of 1917, is now about ready. Its farm buildings have been erected and equipped; foundation herds and flocks have been purchased; its farm has been put in a condition where it is possible to demonstrate the advantages of proper methods of tillage, fertilization and rotations; and in addition a thriving young orchard of twelve acres has been planted, as well as some ornamental shade trees, on what will be the school campus.

The first of the school buildings, a Live Stock Judging Pavilion, contains a large auditorium, which is suitable also for use as a gymnasium. This building contains an excellent arena in which to demonstrate the judging of live stock and which has been, and will be, utilized for auction sales by breeders of pure-bred stock in Eastern Ontario, being centrally located and convenient to railways. Adjoining this pavilion is a newly-erected building suitable for comfortably housing cattle consigned for sale, or horses of those attending the short or regular courses conducted by the School. A Dormitory, a Farm Engineering Building and a Poultry Plant will complete the buildings necessary to the school.

During the winter of 1918-19 a series of short courses, extending from January to April 11, was conducted. The courses consisted of: (1) Live Stock in General Agriculture; (2) Farm Power and Engineering; (3) Household Science.

There were 460 students in attendance. Similar instruction will be given during the winter months.

The School will be fully equipped and a capable staff secured ready to receive students to its regular courses in the fall of 1920. The Course, which will cover a period of two years, is being designed to make farm boys and girls intelligent, educated and prosperous farmers. The programme of studies will be eminently practical. The Household Science Course for girls will consist of instruction in English, cooking, sewing, home nursing, gardening, poultry and farm dairying.

The Ontario Veterinary College

The Ontario Department of Agriculture maintains the Ontario Veterinary College at Toronto for the purpose of training young men for the veterinary profession. The College is affiliated with the University of Toronto and is one of the oldest and best known on the American continent. It has received students from all parts of the English-speaking world and its graduates are favourably regarded, many of whom have attained considerable prominence. The College building is new and modern throughout with the best facilities and equipment for scientific instruction. The purpose of the College is essentially that of a teaching institution for the proper training of students for a degree in Veterinary Science, thus enabling its graduates to practise their profession. The class of student desired is the young man with sufficient education to meet the entrance requirements and enable him to acquire a true grasp of the deeper principles of advanced thought and study.

The complete course consists of four College sessions of seven months each and leads to the degree of Bachelor of Veterinary Science (B.V.Sc.), which is granted by the University of Toronto. The prescribed course of study and instruction in Veterinary Science is particularly attractive and interesting.

It trains the student in acquiring a true knowledge of the structure and functions of the animal body, thus forming the foundation necessary for the successful application of Veterinary Medicine and Surgery.

It trains him in the essentials of productive Animal Husbandry such as the breeds and breeding of animals, their management, feeding and improvement, the marketing, classification and judging of live stock, thus fitting him for opportunities in the live stock industry requiring expert skill and training.

It trains him in getting a scientific knowledge of the diseases affecting animals for their proper treatment and prevention, thus fitting him for successful practice as a Veterinarian.

It trains him for Sanitary Service work relating to the control and eradication of infective diseases of animals; also for the hygienic production of milk and of meat food products necessary for the establishment of domestic and foreign trade under pure food laws and to prevent the transmission of diseases communicable

to man through unwholesome food supplies, thus fitting him for many branches of valuable service to the community under Government and municipal auspices.

It trains him for scientific pursuits and to conduct research work for the purpose of solving many live stock problems occasioned by disease, with incidental economic loss, thus fitting him for laboratory positions and special lines of investigational work required by the State and commercial concerns.

It trains him along proper lines of thought and correct expression through instruction in jurisprudence, economics and public speaking, thus fitting him for administrative positions and to extend wise counsel and leadership.

Number of students in session of 1919-20, 77.

In view of the real service which the College renders the general community and agriculture it looks hopefully into the future as being able to merit a share in the development of the nation during the reconstruction period.

Demonstration Farm, Monteith

This Farm is at Monteith, Northern Ontario, and is operated by the Ontario Government. It comprises 850 acres of wooded land, 150 acres of which are under cultivation, and 150 are in pasture. The Farm aims at producing the best crops and live stock; the testing of grains, roots and vegetables; the distribution of suitable grains, etc., to the settlers at moderate prices; and the establishment of a live stock breeding centre, from which pure-bred animals will be sent throughout Northern Ontario. A school has recently been erected with accommodation for eighty students, and courses are being conducted in Agriculture for farmers and their sons, as well as Domestic Science for farmers' wives and daughters. The Superintendent is always ready to aid settlers and attend meetings throughout the district.

Practically all crops did well on the Farm this year (1919), field crops giving a good yield. Hay is the largest crop. No. 3 O.A.C. oats yield up to 60 bushels per acre, and early Marquis wheat yields from 20 to 30 bushels per acre. Experimental plots, namely, Irish Cobbler Potatoes, whole seed, yielded $453\frac{1}{3}$ bushels of marketable potatoes to the acre. Turnips yielded over 1,000 bushels to the acre, and other vegetables did equally well.

Demonstration Farm, New Liskeard

This Farm, recently set apart, has 230 acres, with 85 acres cleared, and is to be used strictly for demonstration purposes, in producing stock, grain, silage, and suitable varieties of vegetables. A limited amount of experimental work will be done by way of testing out different varieties of grain and other farm crops.

The Government is planning to erect up-to-date farm buildings in addition to the Judging Pavilion already erected, giving accommodation for an agricultural high school and for short courses for farmers in the district. Arrangements are being made to purchase a herd of high-grade, pure-bred cattle and other live stock, to be used for dairy purposes and for producing good stock for distribution in the district.



A fifteen acre field of red clover yielding three tons of hay per acre.

AGRICULTURAL REPRESENTATIVES

These officials, numbering forty-eight, exclusive of assistants, are Agricultural College graduates who act in the capacity of representatives of the Department of Agriculture. They stand for the most modern and practical system of rural pedagogy. They spend a good part of their time among adult farmers, and they are effectively reaching the youth on the farm. They are distributed among various farming communities, where they give practical assistance for the improvement of farm conditions in their neighbourhood; they encourage cow-testing and improvement in the standard of live stock; give orchard and other demonstrations, test commercial fertilizers, and make drainage surveys; manage exhibits at fall fairs, and get up competitions in live stock judging; develop a progressive county spirit, as seen in special county organizations; organize Farmers' Clubs, Co-operative Societies and other Associations; attend Board of Agriculture meetings, and co-operate with the Institute branch by holding short courses in judging stock and seed; address meetings, and distribute thousands of bulletins and newspaper articles; conduct a four to six weeks' course in Practical Agriculture for farmers' sons during the winter in some good farming section in the county; and do much toward interesting the public schools, and so on. At a Convention of Dairymen's Associations an Agricultural Representative said: "The people are alive to the educational interests of the boys and girls growing up on the farm. You cannot tell me that you cannot teach lessons in dairying or any other agricultural subject to boys and girls from six to ten years of age, because I have done it successfully, and lots of other teachers have done it. The big difficulty is that we have not been training along these lines sufficiently. I can take a dozen tubes of milk before a class of public school children, and by allowing them to help me I can teach them the very lessons that several speakers have been trying to teach the grown-up men at these meetings—I can teach them in a way that they will never forget." The office of a Representative, on the main street, is the local centre of organized activity, where many farmers call and have skilled advice, or the benefit of reading the agricultural papers, or of seeing the

best kinds of tested grain, grasses, forage crops, roots and seeds. In short, the Agricultural Representative system of agricultural education far excels the demonstration farm and many other suggested methods of help. It is the gospel of the production of double returns from the ordinary farm, and the specialist preaches it straight to the farmer.



Going to a Rural School Fair.

AGRICULTURAL ORGANIZATIONS

The farmers of Ontario are to a considerable extent actively organized, and co-operation is making distinct progress, to the great advantage of the producer. The dairymen, stockmen, horsebreeders, poultrymen, fruitgrowers, vegetable growers, etc., have each a special association. These associations are under the supervision of the Ontario Department of Agriculture, and receive financial aid from the Ontario Legislature. Their object is the advancement of their particular interests. Each association meets in convention annually, for the exchange of ideas and the discussion of important questions. Reports of these conventions are issued by the Department for general distribution.

Farmers' Clubs and Co-operative Organizations

There are in Ontario about 800 Farmers' Clubs situated in all parts of the Province. These Clubs hold meetings regularly every fortnight or every month, with usually the school section as the district covered by the Club. Some of these Clubs have been started with an educational aim only, while others have had in mind the co-operative buying and selling of farm supplies. The latter has become of increasing importance and at the present time supplies purchased and produce sold co-operatively by Farmers' Clubs are mounting up to millions of dollars annually.

As a result of business experience gained through the co-operative purchasing of supplies many of these Clubs are now attempting the marketing of farm produce, or as a result of the activities of the Clubs separate business organizations are being formed for the marketing of one or more farm products of the district.

Because of the increasing volume of business of these Clubs and the rather loose organization of the Farmers' Clubs, many sections have felt the need of more stable business organization and are becoming incorporated co-operative companies or associations, under the co-operative part of The Ontario Companies Act. Since this part of the Act came into force in 1914, 116 companies or associations have been incorporated. In many of the Clubs and other organizations business has not yet reached the stage where members have thought it necessary to become incorporated. The following list of associations, however, indicates somewhat the extent of

co-operation in agriculture in the Province: Egg Circles, 50; Fruit Associations, 58; Vegetable Growers' Associations, 20; Live Stock Associations, 53; Seed Centres, 47.

In 1914 there was organized a Provincial Company with the idea of acting as a wholesale house for Farmers' Clubs and co-operative societies of the Province. At the start the business of this company was mainly dealing in supplies as required by Farmers' Clubs. The growth of the business has been gradual and last year amounted to a million and three-quarters of dollars. The company is now also engaged in marketing farm produce and is handling large quantities of live stock, eggs, hay and other farm products. More particularly has its work in live stock marketing been beneficial. A seat was purchased on the Live Stock Market at Toronto and this has been a great inducement to the Farmers' Clubs over the Province to ship co-operatively.

Perhaps there has been no greater change in agriculture in Ontario in the last four years than that relating to the marketing of live stock. Previously all country buying was done by drovers, and some shipping points maintained as many as seven drovers. About three years ago the Department of Agriculture placed a man in the field to encourage the co-operative shipping of live stock. Much interest was aroused and co-operative shipping over the Province became generally prevalent. At the present writing the Farmers' Company handles about one-third of the live stock on the market and there is considerable co-operative shipping handled through other firms and sold direct to the abattoirs, which would indicate that possibly one-half of the live stock of the Province is not handled by drovers but by farmers' organizations. Every day new shipping clubs are starting in business and it would appear that the time is not far distant when the greater bulk of stock reaching the markets will be shipped through the farmers' own associations.

All these co-operative societies receive practical help and assistance in organizing and carrying on their work from both Dominion and Provincial Governments, and where a community has a well-established co-operative society the result in financial benefits to the farmers of the community is very evident.

Many instances could be given as illustrating this fact. For instance, there is one association which consists of 96 per cent. of the farmers in the area covered by the association. This company

handles the sale of all farm produce grown by the farmers and is extremely important because of difficulties of individual marketing of the produce grown in the section. These products consist largely of tomatoes, cucumbers and all early vegetables, together with some 500 acres of onions. The company has amply demonstrated its usefulness and will this year do a business of over one million dollars. The company is also doing an extensive business in buying feeds, seeds and other farm supplies for its members.

Even in the newer parts of the Province co-operative associations are flourishing. One society in the north has its headquarters four miles from the main railroad line, and although the company is but two years old, they now own a local store handling all supplies and groceries, a grist mill, saw mill, flour mill and a large warehouse.

Numerous such instances could be given in all parts of the Province where successful co-operative associations will be found and which have proven of great financial advantage to all farmers in the district.

The Ontario Agricultural and Experimental Union

The farm at the Ontario Agricultural College, Guelph, consists of seven hundred and seventeen acres. Of this area, seventy-five acres are used for experiments in Field Husbandry. This is divided into about 2,500 plots from which definite yields are determined. In addition to these plots, certain areas are devoted to plant breeding work, where thousands of plants are studied individually. Experiments are being made with varieties of grain, root, tuber, grass, clover, fodder, silage and other crops, with artificial, green and barnyard manures; with methods of cultivation, selection of seed, dates of seeding, mixtures of grains, pasture grasses, etc. All experiments are conducted under as near average farm conditions as possible, in regard to rotation of crops, manuring, etc., and are repeated for at least five years before they are dropped, and many of them continue for a much longer period of time.

Based on the work of the field experiments at the Ontario Agricultural College, a system of co-operative experiments has been inaugurated throughout Ontario. This work has been carried out through the medium of the Ontario Agricultural and Experimental Union. Forty years ago the Experimental Union was organized by the students, ex-students and officers of the Ontario Agricultural

College. From that time to the present a meeting has been held each year for the discussion of the questions which come before the Association. Very shortly after the Union was established, co-operative experiments were started in a small way. In 1886, however, the co-operative work was started under the present plan, but with only twelve experimenters the first year. From that small beginning it gradually developed until it has become one of the most influential forces in the organized agriculture of Ontario. Many of the farm crops which are now the most extensively grown throughout the Province were introduced to the public through the medium of the Experimental Union. The work has included not only those who have been directly associated with the Agricultural College, but thousands of other practical farmers located throughout the Province.

The co-operative work in agriculture has been conducted for thirty-four years, during which time there have been 94,703 distinct tests made throughout the Province. Each of these experiments required from two to ten plots. The increase in the number of experimenters in agriculture can be seen from the following figures, which show the average yearly number actually engaged in the work in each of three periods covering the thirty-four years during which this work has been in progress:

Periods.	Years.	Average No. of Experimenters per Annum.
1886-1896.....	11	720
1897-1907.....	11	3,386
1908-1919.....	12	4,136

The Experimental Union is sure to fill even a greater place in the future of the Province than it has in the past, with the present urgent demands of the agriculture of the Province. New lines of enquiry are developing and these will receive the close attention of the various committees to carry forward the active work of the Union in the months and the years which are to follow.

Farmers' Institutes and Boards of Agriculture

The Institutes and Boards of Agriculture furnish one of the best agencies of education on advanced methods of operating the farm. Local meetings are addressed by speakers delegated by the Department, and there is almost no limit to the variety of interest-

ing topics embraced under agriculture, horticulture, floriculture, live stock, equipment, farm buildings, and the social side of country life. At special Institutes in many places short courses are given in stock judging, and they are very popular, the total attendance reaching about 15,000; and there are also dairy meetings, with a total of about 14,000. Again, it has been repeatedly demonstrated that in those districts where farmers co-operate in the production of milk, beef, fruit, or any other line, their success is greater than that of farmers who work practically alone or in isolated districts. There are about one hundred Institute districts all over the Province.



Convention of Western Ontario Women's Institutes.

Women's Institutes

Motto: "For Home and Country."

This is one of the greatest organizations in Canada. A comparatively new society, its methods and lines of work are being followed in the other provinces of the Dominion and in the Motherland. It is composed of women of real worth and of all denominations, banded together for the furtherance of principles and institutions worthy of the best efforts of womanhood. Avoiding sensational methods to gain publicity and notoriety, and discouraging formalities, the Institute quietly aims to make the life of the lonely and

isolated brighter, and it spreads the gospel of right living, physical and moral, all over rural Ontario. It gives due prominence to the duties and well being of the household, and also expands its life and effort in the direction of community problems, civic improvement, the welfare of the child, the provision and maintenance of rooms and wards in local hospitals, founding or helping libraries, advancing education, and so on.

Under the Institutes' influence, towns and villages have been cleaned up and better lighted, trees have been planted, and walks have been improved or renewed; the sanitation, water supply and decoration of the school have been looked to, and the surroundings beautified.

The Institutes are interested in installing equipment in the rural schools whereby lessons in Domestic Science may be taught and a hot lunch served to the children during the noon hour in cold weather. This is essential from a moral as well as a health standpoint, as it means supervision of the children at the noon hour.

Twenty thousand rural school children have been medically inspected by duly qualified doctors sent out by the Women's Institute Branch, and over 1,000 children were operated upon for the removal of adenoids and tonsils at the clinics held following the inspection. The Institutes are now co-operating with the Department of Education in making a health survey of the public school children in the rural sections of the Province. They are determined to make this inspection of a permanent nature and are using their influence in securing school nurses and medical health officers to continue the work.

The Institute is no blind, narrow, abstract effort. Lectures are given to its members by qualified speakers, and valuable literature provided and read, on a wide variety of topics, such as House Planning, Labour Saving, Food Values, Care and Feeding of Infants, Poultry Raising, Gardening, Hygiene for Rural Schools, Water Supply, Bacterial Life, Tuberculosis, Ambulance Work, Banking, Law, and many others.

Ten-day Demonstration-Lecture Courses in "Home Nursing and First Aid," "Sewing," and "Domestic Science" are being given by qualified instructors to branches making application for them. Information of a practical and permanent nature is given and a way is paved for further study and experiment. In addition

to this, new friendships are formed, new ideas imbibed and new ideals set up.

Following these courses, Junior Women's Institutes and Girls' Clubs are usually formed. These are very similar to the Women's Institutes, except that the programme is arranged to be of real service to the girl in her teens.

Upon its own initiative the local organization holds eight or ten meetings each year. There are 102 Institute districts, with 925 local organizations and a membership of over 30,000. The total attendance at meetings for a year runs up to 225,000.

Hon. E. C. Drury, the Premier of Ontario, addressing the Women's Institute delegates at the Annual Convention held in Toronto in November, 1919, (his first address after taking office), said:

"I came here to express my good will, my personal appreciation of the great work that the Women's Institutes of Ontario are doing and the greater work they may do in the future. I think I can assure you of this: that our Government will stand behind you for all that is best in the work that you are doing, for the betterment of all conditions, particularly of child welfare—because no matter how we put it, the most important product of this country or any country is the children of the country. I speak again from experience, because we are happy in having five children. There is a great work you can do. In the past we have laid altogether too much stress on wealth as the object of Government and too little stress on the human element. The most precious thing in the world is human life, and the best thing any Government can do is to make conditions such that human life can be developed along the best lines. There never was a time when it was more important that clean, healthy, strong children should be brought up; there never was a time when it was more important that education should be made *the* something that will prepare our children for citizenship. The work of the Institutes so far as our Government can help will be expedited and facilitated. If I have anything to say in the matter you will be given the broadest platform, so that the Institutes will not be confined to matters pertaining to the home and to the school and to child welfare, but also in the broadest way to prepare yourselves for the duties of citizenship that fall upon you."

At the Annual Convention held in February, 1919, a Provincial organization was formed, composed of one representative from each of the seventeen sub-divisions of the Province. This organization has for its objects:

1. To co-ordinate the efforts and further the plans of all local Institutes for home improvement and community betterment.
2. To voice the sentiments of the local branches on all matters of Provincial importance within the scope of Institute work.
3. To co-operate with the Department of Agriculture, or other

Departments of the Government, in work of educational and social lines for the improvement of national life.

The Women's Institutes, in large, practical measure, have quietly and unconsciously anticipated the recent "Forward Movement" of the churches of Canada.

Dairymen's Associations

In the year 1867 the dairymen of Ontario who were interested in the manufacture of cheese and butter formed a cheese and butter makers' association with a view to establishing uniformity in methods and stimulating a wider and keener interest in the dairy industry. Later the original organization developed into the Dairymen's Association of Eastern Ontario and the Dairymen's Association of Western Ontario. Much is done at the annual conventions of these Associations to improve dairy conditions. Large exhibits for which substantial prizes are given are held in conjunction with the annual conventions. Then in 1879 the Western Association, and in 1880 the Eastern, undertook to send instructors to give assistance to the makers in the factories, which did much to improve conditions and to establish uniformity in Ontario in cheese and butter. This work developed to such an extent that in 1907 the Provincial Department of Agriculture came to the assistance of the Associations by appropriating funds to support a staff of instructors sufficient to make periodical visits to all the factories and creameries in the Province and to attend meetings held under the auspices of the factories and creameries. The work is now directed by the Department, which has the co-operation and advice of the Associations. These Associations also hold district dairy meetings, emphasizing such features as are of greatest importance in each. The reports of the Associations are published each year by the Provincial Department for distribution generally among the factory-men and farmers of the Province.

The creamery-men of the Province have formed a strong organization known as the Canadian Creamery Association. Members are admitted from other provinces as well as Ontario.

The dairy farmers of the Province have a strong organization known as the Ontario Milk and Cream Producers' Association. These organizations are doing good work and are a factor in placing this strong branch of agriculture on a good business basis.

Agricultural Societies

Agricultural Societies were established in quite early times in the Province of Ontario, the honour of organizing the first falling to Niagara-on-the-Lake, where an agricultural society has been in existence for over a century and a quarter. Ontario has to-day over 375 Societies, new ones being organized each year, more especially in the newly settled portions of Northern Ontario. Most of them hold exhibitions, chiefly in the fall of the year, and an increasing number are entering the Standing Field Crop Competitions each year. This educational work has had most beneficial results both in improving the seed grain, potatoes and roots in the Province, and also in bringing better prices to the farmers who enter these competitions. Last year, in response to the call for greater production of spring wheat owing to the failure of the fall wheat crop in the Province, a large proportion of the Societies sowed spring wheat with excellent results in the older settled portions of the Province, where this crop had not been previously grown for a considerable period of time.

Societies which devote their energies and funds to the purchase and maintenance of pure-bred stock are increasing in number and are doing excellent work in improving the animals in their neighbourhoods. Legislative grants are given for stallions, bulls, boars and rams, which have been in the possession of a Society for at least nine months of the previous year.

Seed Fairs and Stallion and Bull Shows are held in the spring and grants are made to them. The Seed Fairs as a natural sequence to the Standing Field Crop Competitions are doing excellent work in the distribution of first class seed grain in the Province.

Provision has been made by the Government to reimburse Societies which suffer loss in gate receipts owing to wet weather on the days when the Fairs are held, or by destruction of their buildings by fire, within thirty days previous to the date of holding the Fair. The grant is based on 75 per cent. of the loss as compared with the average of three previous normal years, and has been of great assistance to the Societies, especially the smaller ones, in helping them to meet such losses.

An annual report of the Agricultural Societies is published giving much valuable information as to the work of the Societies, also articles of interest in connection with the holding of Fairs and Exhibitions. An appendix to this report is also distributed, giving the names and addresses of competitors in the Standing Field Crop Competitions, the varieties of grain they have for sale, the scores and the weeds found in the fields, thus furnishing useful information to purchasers of good seed grain and potatoes as to the best sections in which these are grown.

Ontario Association of Fairs and Exhibitions

An annual Convention of this Association is held in Toronto in February, at which the Agricultural Societies of the Province from Glengarry in the east to Kenora in the West are represented by delegates. It is the "Clearing House" of the Agricultural Societies and the medium through which application is made to the Government for increases in grants and for legislation for making the work of the Societies more effective and beneficial.

Live Stock Associations of Ontario

There are a number of Provincial Associations in Ontario representing the different classes of stock. They are: The Ontario Horse Breeders' Association, the Dominion Cattle Breeders' Association, the Canadian Sheep Breeders' Association, the Ontario Sheep Breeders' Association, the Canadian Swine Breeders' Association, the Ontario Swine Breeders' Association, the Ontario Berkshire Society, the Ontario Yorkshire Society, the Ontario Poultry Association.

These Associations are organized for the purpose of looking after the interests of the classes of stock which they represent. One of the most important things which has been taken up by them is the question of transportation. Upon representations made to the railway corporations, very considerable reductions in the freight rates for pure-bred live stock have been conceded. They have also secured additional important shipping facilities and conditions: co-operative shipping of pure-bred stock is arranged, and cars of pure-bred stock are sent regularly once each month from Ontario to the Western Provinces. And they are very closely associated with the records for pure-bred stock in Ontario.

In addition to the Provincial Associations, there are the Record Associations for Canada, practically all having their headquarters in Ontario, owing to the fact that a very large proportion of the breeders of pure-bred stock reside in this Province.

Two Provincial Stock Shows are also held under the auspices of these Associations, the Ontario Provincial Winter Fair at Guelph, and the Eastern Ontario Live Stock and Poultry Show at Ottawa.



Grand Champion Shorthorn Bull, Canadian National Exhibition.

The Ontario Plowmen's Association

This Association was organized a few years ago to extend and amplify the line of work which had hitherto been under the auspices of the Agricultural Societies. Plowing matches were being held locally, but there was no central organization to ensure co-operation and co-ordination. The establishment of branches is encouraged

and grants are made to all that hold plowing matches, thus inducing more careful cultivation of the soil and, consequently, better crops. A Provincial and International Plowing Match, Tractor and Farm Machinery Demonstration is held each year in October, where farmers can see both good plowing with horses and tractors and also the most up to date farm machinery and twentieth century power machines. Special classes are arranged for juvenile plowmen and also for Indians, encouraging both to persevere and become good plowmen and better farmers.

Poultry Associations

There are about sixty recognized local Associations. A recognized Association is one that is entitled to receive a Government grant of \$50 yearly, and to have a lecturer supplied by the Department at a meeting held in most cases at the time of the Association's Annual Poultry Show. Each Association must hold a show annually. The number of Associations receiving Government grants during the year ending October 31st, 1919, was 53; the total membership was 4,550; the number of entries at their annual shows for the year was 29,968, and the amount of prize money paid was \$11,891.20. In addition to these Associations there are about forty which do not qualify for the grant, but which receive from the Live Stock Branch the assistance of qualified judges, lecturers and demonstrators. Besides all these there are about a dozen of so-called Specialty Clubs, or associations devoted to one breed or variety, such as the Barred Plymouth Rock Club, the Black Minorca Club, the White Leghorn Club, and so on, and they are all very active.

One of the outstanding features of 1919 was the great Ontario Poultry Conference held at Guelph on June 10th, 11th and 12th. There were delegates from the whole Province, and every meeting (two sessions each day) was filled with interesting lectures, papers, and the expressed experience of representatives who attended.

The Ontario Beekeepers' Association

This Association was organized in 1880 and has had a continuous existence and gradual growth up to the present date. It consists of a central organization and a number of County Beekeepers' Associations which are in affiliation with it. Its purpose is to advance the business of the keeping of bees and the production of honey in

every way possible, and its efforts have been directed largely along educational lines. A three days' Annual Convention is held each year at the time of the Fruit, Flower and Honey Show in Toronto in November. The sessions of this Convention are devoted to the discussion of practical methods of the management of bees and the selling of the product. In addition to the Annual Convention, County Associations hold spring and fall meetings and an occasional apiary field day during the summer. Up till the appointment of the Provincial Apiarist in 1909, no very serious effort was made to extend the operations of the Association, and at that time there were something like 300 members and nine county affiliated societies. As one of the duties of the Provincial Apiarist is to assist in the organization of beekeepers, the number of County Associations has been increased until there are, at the time of writing, thirty affiliated Societies, and the total paid-up membership is over 1,000. The Association has been successful in securing legislation for the prevention of the adulteration of honey, also to prevent the spraying of fruit trees while in full bloom with poison which would be injurious to bees. By far the most important legislation which has been secured by the Association is the Ontario Foulbrood Act, by which an annual vote of \$5,000 is expended for the assistance of beekeepers in the control of infectious diseases amongst their bees. The money is used in sending Apiary Inspectors to the different apiaries where disease is suspected, and in addition to detecting disease these Inspectors act as practical instructors and demonstrators, teaching beekeepers improved methods of management of their apiaries. In connection with this, Apiary Demonstrations are held in different counties where they will do the most good. These meetings are very much appreciated, and are always well attended. Another very important feature of the work of the Association is the annual Crop and Price Report. It is made on the crop taken by correspondence from the members and considered by a committee of experts who forecast for the benefit of members the prices for honey which are likely to prevail during the coming fall and winter. This work has been in operation for about fifteen years and has been of great benefit in standardizing the price of honey throughout the Province. The future development of the work of the Association will likely be along co-operative lines. The Provincial Apiarist says there is estimated to be about 10,000 beekeepers in Ontario

keeping about 300,000 hives of bees and producing annually something like 5,000 tons of honey.

The Ontario Fruit Growers' Association

The Ontario Fruit Growers' Association as a body was incorporated over sixty years ago by Act of the Canadian Parliament. This Association has a very large membership among the commercial fruit growers of the Province, and has always taken a leading part in fruit matters of both Provincial and Dominion importance. Notable among the movements that it has inaugurated are the



Government Exhibit of Fruit, C.N.E.

Fruit Marks Act, now known as the Inspection and Sales Act, the fruit experiment stations of the Province, demonstration orchard work in pruning and spraying, introduction of many of our best varieties of fruits, the preparation and publication of lists of fruits suitable to the different districts, the holding of a large fruit show in the fall at a time when our apples are at their best, the showing of our fruits at the large exhibitions in other countries, making arrangements with the transportation companies for better rates

and services, for both local and long distance shipments, etc. The Association holds annually a convention of fruit growers at which are thoroughly discussed the very latest topics of interest along fruit growing lines. Its membership is open to all fruit growers who are kept in touch with the work of the Association and of the Department of Agriculture for the Province through the reports and bulletins which are issued from time to time. The Association claims that it has fathered the co-operative movement in the Province, and has aided in the organization of a majority of the local shipping associations and latterly in the formation of a central sales agency to handle the fruit of the smaller associations. In affiliation with it are practically all of the local and district fruit growers' associations in the Province and it counts in its membership the most prominent growers of all kinds of fruits. From a very small beginning it has grown to a large membership and is very proud of its record during all these years of its existence, counting that it has done a great deal towards the present state of the fruit industry in the largest fruit growing Province in Canada.

Horticultural Societies

There has been a most remarkable development of Horticultural Societies in Ontario in recent years and there are now over one hundred live organizations with a membership of 20,000 working energetically for the beautification of cities, towns, villages and rural districts, a recent amendment to the Act permitting townships to organize a Society with a membership of at least twenty-five.

During the War the Societies devoted their energies in a large measure to greater production of garden stuff with most successful results, tens of thousands of dollars worth of vegetables having been grown and harvested by amateur gardeners. While this good work will still be continued, the growing of flowers will now again be taken up and home surroundings looked after as before the War. Civic improvement will also receive attention. A great demand for lecturers on Horticultural topics has arisen and increasing interest shown at meetings, as evidenced by the many questions asked. Many of the Societies hold exhibitions, commencing with tulips in May and frequently combining flowers and vegetables at the summer and fall exhibitions. The children's exhibits form an attractive section, the youthful gardeners showing a keen interest in their displays and the judge's awards.

Ontario Vegetable Growers' Association

This Association has branches in various parts of the Province with a considerable membership, many new branches having been recently formed. Crop competitions in vegetables have been held for a number of years, but have now been greatly extended, the crops entered for competition being celery, tomatoes, onions, potatoes, cabbage and melons. The Province is divided into five



Pumpkins.

districts and the prize winners in these local competitions exhibit at Toronto, Ottawa, London and Kingston Exhibitions. A garden competition has also been organized, which has created great interest among vegetable growers.

The co-operative method of buying seed and supplies and of selling vegetables, which has been in operation in the Sarnia Branch for some time, is now being taken up by others and will, doubtless, result in a tremendous saving of expense, the obtaining of better seed and increased prices for the growers for all that they produce.



In the Corn Field.

THE BOY IN AGRICULTURE

In agriculture, the boy has arrived. He has been a long time coming. His way has been as tortuous as that of a wild grape vine, and at times his reluctant steps dragged distressingly. Yet the boy has actually arrived in agriculture—open-eyed, open-hearted, and open-handed. Early methods of imparting a knowledge of agriculture to the boy were more or less a failure because they largely lacked that most important of all things in teaching known as "the point of contact." There was too much book and not enough boy in the mind of the pedagogues. They were unwisely endeavoring to interest him in agriculture at the very beginning by forcing him to memorize a lot of learned and (to him) rather meaningless phrases. It was the old story of putting the cart before the horse. The new methods of instructing the boy in farming make him so enthusiastic in his work that he will hunt for definitions and analyses on his own account. And when the boy reaches for the book of his own accord he is very likely to read it with profit. Prof. S. B. McCready, formerly Director of Elementary Agricultural Education for the Province, writes: "The aim of our work is to bring about the teaching of agriculture in the 5,735 rural schools of Ontario. This is a square deal for the country boys and girls! And by agriculture we do not mean a new subject, but a new direction, a new method, a new spirit, a new school." The boy has come into the field of agriculture and he rendered signal service during the Great War.

RANCHING

Ranching is a rapidly developing branch of the live stock industry in Ontario. Many thousand cattle and sheep are marketed annually from the ranches in different parts of the Province.

To the rancher many advantages are offered: (1) the best live stock market in Canada, Toronto, within less than twenty-four hours' journey by freight from a large area of ranching country; (2) large areas of land suitable for ranching, some deeded land that may be bought for a small sum per acre and crown land that may be obtained under a ranching lease from the Department of Lands; (3) an abundance of water in all parts supplied by numerous lakes, rivers and springs; (4) pasture, plentiful and nutritious, on shallow soils early in the spring and late in the fall, and on the deeper soils and shaded areas throughout the summer. The happy blending of lakes, rivers, shallow and deep, and shaded soils that are

found on the large area of land that is too rough for ordinary farming make conditions very favorable for ranching, especially when these areas are near railways and not far from markets and prosperous agricultural communications where good live stock can be purchased.

Several methods of ranching are practised. Some pasture stock during the summer only, and put their stock out with near-by farmers to be wintered. Others provide winter feed by growing farm crops and cutting beaver hay and winter their own stock. Some buy stock in the spring and sell in the fall, and others breed most of their own stock while others buy. The local conditions or ideas of the rancher determine the system to be adopted.

A ranch specialist is located at the Department of Agriculture, Burwash, and devotes all his time to the interests of ranching.*

LABOR-SAVING MACHINERY

The scarcity of farm labor has hastened developments in labor-saving machinery for the Ontario farm. Practically all the heavy labor in connection with the cultivation of the fields, the sowing, reaping and harvesting of the crops, and the threshing, cleaning and preparing the crops for market is done by machinery. Plows of all kinds, drag harrows and disc harrows, stiff-tooth and spring-tooth cultivators, seeders and broadcasters are used by the Ontario farmer, and, in operating these, the tractor and teams of heavy-draught horses are used for power, the operator almost invariably riding as he directs his work. The same is true of the self-binder, the corn binder, the mowing machine, the dump rake and the side delivery rake, and various other machines used in harvesting the crop. The farm tractor is fast becoming popular as a source of power. Hay loaders are used extensively and the horse fork and slings make unloading easy. Sheaf loaders are now on the market and altogether land cultivation and crop harvesting are yearly made easier on the Ontario farm. Up-to-date threshing machines with self-feeders and blowers make short work of threshing. The tractor or stationary engine or the windmill or electric power pumps the water, grinds the grain, cuts the wood, runs the cream separator, and does all kinds of power work. At the present time developments in the extension of electric power to rural districts and in all kinds of electric machinery are rapid and power farming is progressing.

* See Ranching Regulations, page 226. .



Section of the Canadian National Exhibition, Toronto, 1919.

EXHIBITIONS

The Canadian National Exhibition

The exhibits at the Canadian National Exhibition, as its name implies, are practically comprehensive of all the Provinces in the Dominion. Everything can be seen that Canada grows, makes and mines. There are also exhibits from the West Indies, Great Britain and the United States. The Exhibition has an international repu-



The Prince of Wales at the Canadian National Exhibition, Toronto, 1919.

tation, drawing thousands of people from the United States each year, special excursions being run from many parts. The attendance in 1919 was 1,201,000. Every year sees additional buildings being erected in order to keep up with the ever-increasing number and variety of exhibits.

The grounds of the Exhibition comprise 264 acres, almost in the heart of the city and ideally located on the shore of Lake Ontario, along which they stretch for upwards of one mile. There are 73 permanent buildings used for Exhibition purposes, including the impressive main group of 12 structures of stone, brick, concrete or



steel construction. It is generally conceded to be the best and largest permanent exposition plant in the world. Now in its forty-first year, the Exhibition has been visited from time to time by many of the Empire's outstanding figures. In 1919 H.R.H. the Prince of Wales honored it by presiding over the opening ceremonies, and on this and subsequent visits to the grounds he was given a tremendously enthusiastic reception by hundreds of thousands of citizens.

The Western Fair

The Western Fair of London, Ontario, has just had, in 1919, the most successful exhibition ever held. The attendance is estimated at 175,000 people during the week. The amount offered in prizes was \$25,000.00, most of which was won and paid. There was an exceptionally fine exhibit of live stock of all kinds. The stabling provided was altogether too small to hold the stock and temporary stables had to be erected. The Board of Directors have decided that more room must be provided and are taking steps to enlarge their grounds before the 1920 Exhibition.

The Central Canada Exhibition

The Central Canada Exhibition at Ottawa, reputed to be the second largest annual fixture of its kind in the Dominion, probably owes much of its consistent success and steady growth to its fortunate situation. It has for its support a wide territory on both sides of the interprovincial border, of which Ottawa is the commercial centre, and in which the stock-raising and agricultural industries are well developed. But its patronage does not come from this district alone. In live stock, agricultural products and manufactures, it draws exhibits from distant points in Canada. Many of the exhibitors at the Canadian National in Toronto ship their exhibits from Toronto to Ottawa, the Ottawa Fair following directly on the close of the Toronto Exhibition. It is expected, too, that the completion of the permanent highway from the Capital to the St. Lawrence will bring to the Ottawa Exhibition considerable patronage from northern New York. The Central Canada has the additional advantage of being at the seat of government. Various departments of the Dominion Government exhibit extensively at the Exhibition. The Central Experimental Farm contributes many attractive entries each year.

The 1919 Exhibition had noteworthy success, surpassing all previous records of attendance and receipts. Despite two days of rain the attendance totalled 250,000 as against 160,770 in 1918. The receipts for 1919 were \$104,245 as against \$66,304 the previous year.

Ontario Provincial Winter Fair

The Ontario Provincial Winter Fair is held at Guelph in December of each year and is a combined Live Stock, Seed and Poultry Show. The importance of this Fair may be estimated when consideration is given to the fact that the prize money distributed among the exhibitors at the 1918 show, amounted to \$24,025.75. Furthermore, the popularity of the Fair is shown by the increasing number of entries in almost all the various classes.

	1910	1911	1912	1913	1914	1915	1916	1917	1918
Horses	248	274	266	373	287	376	302	338	398
Beef Cattle.....	218	154	140	160	203	258	185	178	260
Dairy Cattle.....	48	62	69	79	72	146	114	105	134
Sheep	322	371	322	321	431	422	388	457	588
Sheep Carcasses.....	111	106	90	82	129	92	79	81	96
Swine	336	293	187	290	250	415	286	299	351
Seed	148	138	186	269	337	331	374	252	394
Poultry	5,004	5,043	4,495	4,608	4,579	5,582	5,490	6,113	6,323
Judging Competition.....	250	293	242	309	250	249	187	205	203

The Fair held in December, 1919, was the most successful of all the thirty-six Annual Fairs held in the city, and was one of the best of its kind in Canada.

The Ottawa Winter Fair

The Winter Fair held at Ottawa each year by the Eastern Ontario Live Stock and Poultry Association is under the direction of the Ontario Department of Agriculture, the director of the Live Stock Branch being managing director of the show. This Winter Fair has grown very rapidly during the past few years, until at the present time (1919) it is one of the largest fat stock shows in Canada. There has been a steady improvement in the quality and number of exhibits in all departments at this show, including horses (light and heavy), beef cattle, dairy cattle, sheep, swine, poultry and seeds. As a result of the demand for saddle and harness horses, classes for these have been added at this show, and have proven very popular. In connection with beef cattle, sheep and swine, classes are included for animals both alive and in the carcass, which has proven to be of great educational value to the public. The Poultry Show in con-

nection with this Winter Fair is one of the largest in the Dominion and has made a very rapid growth during the past few years. Live Stock Judging Competitions are also conducted for the farmers' sons in judging the various classes of live stock.

As the Hand Book goes to press, information comes to hand that the Ottawa Winter Fair of January, 1920, is the largest yet held, with about 3,500 entries in poultry and about 1,200 in live stock.

Horse Shows

Spring Horse Shows are held at various points throughout the Province each year. The principal shows are at Galt and Cobourg, which are largely attended.

The Toronto Horticultural Exhibition

This show is held in the Transportation Building, Exhibition Park. It is an annual show of fruits, vegetables, flowers and honey, under the auspices of several societies, aided by the Provincial Government, and is organized to promote these attractive industries.

The first show held since the war began was opened on November 11th, 1919. The exhibits, though perhaps not as numerous as in former years, were of the most excellent quality and it is said that in tasteful arrangement the flower show surpassed anything heretofore seen in Toronto. The *Globe* said as follows:

The Transportation Building, which even when filled with motor vehicles, seems a huge place, was dwarfed by the quantity of exhibits. Long racks, displaying hundreds of boxes of glistening apples and tables loaded with nearly every known vegetable occupied one-half of the building. The other half was given over to floral displays and the canary show. The flowers were wonderful. Rare orchids, imported from Africa, chrysanthemums of every imaginable colour and conceivable size, brilliant begonias and delicate cyclamens were shown, some individually, some collectively, some mixed with gorgeous foliage plants. Evergreens and palms provided the background. A chrysanthemum of the "Turner" variety measured fully nine inches across, and was considered by the Duke of Devonshire the largest he had ever seen. The display of vegetables was greater in size than before and of superior quality. The exhibit of honey was good and indicated that the season for honey was very fine.

Rural School Fairs

The conduction of Rural School Fairs, which are designed to prepare the boy and girl for the farm, form part of the Agricultural Representative's activities. During the past year 357 fairs were held in the Province; 3,278 schools were included in the movement, with a total of 78,946 children taking part. Seeds are distributed in the spring to the boys and girls with cultural directions and their



Parade at a Rural School Fair.

plots are judged during the summer. In addition, 9,940 dozens of eggs of a bred-to-lay strain of a utility breed of poultry were distributed to the children in the schools. A School Fair is held in the fall at which the plot products, chickens, live stock, fruit, collections of nature objects, manual training, baking and sewing, art, essays, etc., are in evidence. The agricultural exhibits by the boy and girl at these shows do credit to all concerned and give a happy augury for the future of our country fairs.

Royal Agricultural Winter Fair

A winter exhibition known as the Royal Agricultural Winter Fair has recently been established in the city of Toronto. This Winter Fair will embrace all kinds of live stock, including market classes and breeding classes, dairy products, grain, fruit, vegetables, honey and flowers. The city of Toronto has voted one million dollars towards the erection of a building for this Fair on the Exhibition grounds, and financial interests have agreed to contribute \$400,000. The Federal and Provincial Governments have each resolved to give \$25,000 a year for ten years, to be devoted to Prize Lists. The Show will give out in prizes about \$75,000 annually. It is generally admitted that it will have a very beneficial effect upon the improvement of live stock for both breeding and market, as well as upon the development of all agricultural interests.



Market Day in an Ontario City.



THE HON. BENIAH BOWMAN
Minister of Lands and Forests, Ontario

FORESTS

The forest area of the Province of Ontario is estimated at 260,000 square miles. Included in this estimate is Patricia, the most northern District, with 100,000 square miles of wooded lands. The timber resources of the Province are among the best in the Dominion, and the pine forests are among the most valuable on the continent of America. The total area covered by timber license or other rights is 40,000 square miles.

Forest Reserves

The Government of Ontario has permanently withdrawn from settlement nearly thirteen million acres of crown lands as Forest Reserves. These are: Nipigon, 7,300 square miles; Timagami, 6,000; Mississauga, 3,000; Quetico, 1,500, being a total of 17,800 square miles in Northern Ontario; Algonquin Park, 2,060; Rondeau Park, 8; Eastern, 100, being a total of 2,168 square miles in Old Ontario, or a grand total for the Province of 19,968 square miles. The greater portion of Algonquin Park is covered by license, which authorizes the cutting of certain classes of timber.

Types of Ontario Timber

While an accurate, detailed survey of the forest resources of Ontario has not yet been made, it is possible to give a general description of the forest condition, in relation to the distribution and occurrence of the commercial trees of the Province. For purposes of description Ontario may be divided into three zones or types, namely: The Southern Hardwood Type, the Central Laurentian Type and the Northern Type.

The Southern Hardwood type is that region which lies south of the Laurentian plateau and comprises about thirty million acres. When white men first reached Ontario this was a vast pine and mixed hardwood forest interspersed with pure stands of pine upon the lighter sandy soils.

In the southern portion of this region (the Lake Erie district) a mild climate and fertile soil supported a remarkable flora. Here were found the black walnut, chestnut, tulip tree, magnolia, black gum and numerous other southern species.

Throughout the Southern Hardwood type we find maple and beech most prevalent, with white and red oak, elm, ash and cherry attaining splendid development.

This region is now largely cleared for agriculture and only the remnants of forests remain in the form of farmer's woodlands. It is estimated that less than nine per cent. of this region is in woodland and the forest products are chiefly used for local industries.



Sawing Lumber. Madawaska River.

The Real Forests of the Province

The Central Laurentian type comprises the real forests of Ontario. This area extends from about the 45th parallel of latitude on the south, to the heights of land (the ridges forming the watershed between Hudson's Bay and the Great Lakes) on the north. It makes a belt across Ontario 1,000 miles in length and comprises a potential forest area of 50,000,000 acres, an area larger than that of England and Wales. This vast region of Archean rock has here and there pockets of soil which may be suited for agriculture, but in the aggregate this area must be managed for forest crops if it is to remain permanently productive.

While the topography and soil of this region is little diversified, yet there is a distinct difference in forest types. The region has usually been classed as that of a coniferous forest with white pine, red pine and hemlock the outstanding species. Owing to a better climate and perhaps to somewhat better soil conditions the southern portion of this Central Laurentian type contains a number of hardwoods worthy of mention. The area referred to is that portion of the Laurentian formation lying south of Lake Nipissing, also a belt along the north shore of Lake Huron and the southern portion of the Rainy River District at the western end of the Province.

Within this region, comprising probably fifteen to twenty million acres, are found maple, beech, red oak, elm, basswood, paper birch and black ash in limited quantities. However, the most valuable hardwood of this region is the yellow birch (*Betula lutea*) or the so called black birch of the lumberman. This tree attains its best development within this region, specimens are frequently found growing 3 to 4 feet in diameter and with clear stems of 50 to 60 feet in height.

The Virgin Stands of White and Red Pine

A large portion of the virgin pine has been cut from the eastern and southern portion of the Central Laurentian type, and it is to the northern part of this region that we now turn. With the exception of a strip along the north shore of Lake Superior this belt, south of the height of land, contains the virgin stands of white and red pine. This region is estimated to contain fifteen to twenty billion board feet of white pine. In addition to white and red pine, this region produces paper birch, white spruce, cedar, banksian pine and balsam fir in commercial quantities.

The northern type of forest lying beyond the height of land is best described as a spruce and poplar forest. Scattered white and red pine occur in the southern portion of this area, but not in commercial quantities. Banksian pine and balsam fir gradually disappear as we go north, but white and black spruce, tamarac and aspen are found to the northern limits of tree growth, although becoming very poor in development at the extreme north. The northern boundary of this type is not well known, but the area is thought to comprise about fifty million acres. This does not include the District of Patricia.

The aspen and balsam poplar find their best development in the central part of this northern type, reaching 18 to 24 inches in diameter with clear trunks 50 to 60 feet in height. In the southern portion of this region the white spruce, banksian pine and poplars are frequently cut into lumber.

While considerable saw timber will be found in the southern portion of this region the great value of this forest at present is its enormous supply of pulpwood. It is estimated to contain at least 200 million cords of pulpwood.



Hauling Logs, Madawaska River.

The Outstanding Commercial Trees

Summarizing, Ontario's forest regions or types are as follows:

Southern Hardwood type with about three million acres of private woodlands in small holdings in which maple, beech, elm and basswood are the predominant species.

Central Laurentian type, comprising fifty million acres, in which white pine, red pine, hemlock, banksian pine and white spruce are the most valuable conifers, and birch and maple the most valuable hardwoods.

Northern type, comprising about fifty million acres, in which white spruce is the most valuable conifer, and poplar the most valuable hardwood.

In addition to describing the forest regions of Ontario, further mention should be made of some of the outstanding commercial trees with special reference to their qualities and uses.

The white pine (*Pinus strobus*, Linn.), known abroad as the Weymouth Pine, still holds the premier position amongst the trees cut in Ontario's forests.



Dumping Logs in the Spanish River, Algoma.

No other wood has played so important a part in the history of eastern America. In the past this wood has served more uses than can be enumerated. It has supplied material for everything, from the tiny match to the mast for the great ship. When the early pioneers landed in America they soon found that white pine was of all the woods the best adapted for purposes of home construction. It could be easily handled and readily worked even by the unskilled. The test of three centuries has proven it to be the premier wood for home construction.

The wood of white pine seasons quickly; is light and soft and can be easily worked under the carpenter's tools. Its durability has been proven by the fact that houses built soon after the Pilgrims landed are still well preserved. The remarkable quality of this wood is attested by the fact that it is used by twenty-seven distinct industries in Ontario and for ninety different commodities.

Hemlock (*Tsuga canadensis*) is distributed throughout Ontario south of the height of land, although it is not found as far north as the white and red pine. It is found occasionally in pure stands, but more often mixed with pine and hardwood. The wood is coarse and cross grained, not so durable as pine, but has considerable strength. Owing to its strength and abundance it is used for rough building construction, for boxes, and its bark is greatly valued for tanning.

Of the woods cut into lumber in Ontario, hemlock stands second in value, producing from two to three million dollars' worth of timber annually.

Red pine (*Pinus resinosa*) is found throughout Ontario south of the height of land. It comprises a much smaller proportion of the forest than white pine, and is usually found upon poorer soil sites.

The wood of this tree is more resinous, harder and stronger than that of white pine. In local markets it is often mixed in with the latter. The wood of red pine is very similar to that of *Pinus sylvestris*, the chief pine of Europe. Red pine being harder and stronger than white pine, is more valuable for structural uses. The annual cut of red pine is around 100,000,000 board feet.

Spruce is Valuable for Pulp Wood

White spruce (*Picea canadensis*) has a wide distribution in Ontario, being found in all parts of the Province excepting a narrow belt along Lake Erie, while in the central and southern parts of Ontario it grows to saw material size and is cut for lumber. In the northern part of its range its greatest value is for pulpwood.

Compared to white pine, spruce is not as durable nor as easily worked, but it is comparatively tough and has a fine grain. Being non-resinous, it is without taste or odor, and is valuable for containers of foodstuffs. It is used for inside structural purposes in building, for cooperage, musical instruments and ship building.

While it is used in the manufacture of some fifty commodities, its chief use in Ontario is in the manufacture of pulp.

Birch Heads List of Hardwoods

Yellow birch (*Betula lutea*) is found throughout Ontario south of the height of land. It finds its best development in the Ottawa-Huron district, south of Lake Nipissing, frequently growing three or four feet in diameter with a clear trunk fifty to sixty feet in height.



Lumber Pile, Byng Inlet, Georgian Bay.

Yellow birch forms the bulk of the birch cut into lumber in Canada, and heads the list of hardwoods in regard to quantity and value. The annual cut is valued at about one and one-half million dollars.

While the cut of maple and elm each has an annual value above that of birch in Ontario, it is likely that the latter will be our most important hardwood in the future. It reaches its finest development in the central part of Ontario, where a large quantity of virgin supply exists on lands not suited for agriculture.

The character and quality of this wood is probably not appreciated abroad. The wood of yellow birch should not be confused with that of the paper birch or the white birch of Europe. It is superior to these woods, being obtainable in large dimensions and of very fine quality. The wood is hard, strong, and has a very fine grain. It is easily worked and, taking a high polish, it has become a popular wood for floors and interior finish. While it has a character of its own it is often stained to imitate mahogany and other more expensive woods. In Ontario this wood is used by thirty industries and for fifty-five different commodities.



Beaver dam, 6 feet high, 100 feet long, Algonquin Park.

Mills

The Province has eighty sawmills of large capacity which annually produce immense quantities of pine and other lumber. More than 800 factories are in constant operation in the production of material for building.

Large pulp and paper industries are established at different points throughout the Province, chiefly Northern Ontario, which derive their supplies of raw material from the extensive pulpwood

areas belonging to the Crown. These industries are situated at Thorold, Ottawa, Iroquois Falls, Smooth Rock Falls, Sturgeon Falls, Espanola, Sault Ste. Marie, Port Arthur, Fort Frances and Dryden, while similar plants are to be constructed in the vicinity of Kapuskasing and in other localities. The daily output of each of these mills ranges from 75 to 400 tons of pulp and paper per day.

Statistics

The total production of sawlogs and square timber in 1918 was 253,539,089 feet board measure. In the same year the cut of pulpwood was 338,563 cords, and of railway ties was 2,094,099. The total revenue from woods and forests for timber dues, bonus, ground rent and transfer fees in 1918 was \$1,635,684. The value of the total forest cut in 1918 was about \$42,000,000. The capital invested in 1918 amounted to \$44,843,439. The salaries and wages paid to employees, fuel and material used, and miscellaneous expenses totalled \$31,485,275.



Lumbering in Ontario. Nearly Every Ontario Farm Has a Wooded Area,

VIEWS OF BRITISH IMPORTERS

Canadian Lumberman and Woodworker, 1919.

As you can understand, business in the timber trade here is only very slowly beginning to assume something of its pre-war aspect, it being only recently that the embargo on imports was removed. Indeed, up to the present there have been practically no imports from Canada except those on government account, while it is impossible to say much about current values owing to these having been fixed on an arbitrary basis which ignored the ordinary laws of supply and demand. As regards future prospects it would appear certain that for some considerable time to come large quantities of timber will be required, and we would say there can be no doubt that this country will look to Canada for a considerable proportion of the necessary supplies. In the matter of white and red pine its chief competitor, as in the past, will be from the Baltic, and if Canada can send in supplies on equally favorable terms, there can be little doubt that it would have the preference with most of the buyers in this country. Apart from spruce large quantities of pine will be required, and the natural source of supply will be Canada, as in the past. The grade chiefly wanted will be, we think, the cheaper class, but there will also be some outlet for the best quality of pine in deals and sidings. Canadian birch will also be wanted for furniture and other purposes, and this along with pine and spruce, we should say, will form the bulk of the requirements from your country, though, no doubt, there will be the usual amount of log timber in waney pine, elm and oak wanted for shipbuilding and other purposes. Of Canadian timber generally we might add that the stocks on hand are quite exceptionally low, many items being entirely exhausted. We may add that we look with every confidence to seeing a great development in the trade between your country and ours in the immediate future, the general feeling being entirely in favor of a closer relationship with the colonies.—Edmiston & Mitchells, Glasgow, Scotland.

Taken all over, we should say the prospects for Canadian wood goods are very bright, but taking into consideration the difficulties to be faced in connection with the dropping of the control and the unrest caused by labor troubles, there may be considerable delay and disappointment before the highest hopes are realized. That these will be ultimately fully realized we do not doubt.—Cant & Kemp, Glasgow.

In the house building line which, it is expected, will be carried on very actively owing to the great need of dwellings, there will be a great call for lumber. Hardwoods are being considered, especially for floors. Oak, maple, birch, and beech stand a chance of receiving much more frequent calls than ever in the past. Most floors of moderately priced houses in England have been made of Norway spruce, the boards being about six inches wide. This wood is so soft and shrinks and swells so badly that it is almost indispensable that such floors be kept covered with carpet. The best and most economical hardwood flooring must come from North America. It is relatively cheap at first cost, and its wearing qualities are so extraordinary that renewals and repairs will be far apart and few. The British Isles have so little hardwood of their own that it cannot be considered as flooring. The home timbers of England and Scotland were so severely depleted during the war that new forests must, in many instances, be brought on from new plantings. Fortunately, your country has plenty, which it will gladly share with those who need it; and hardwood flooring in particular, and interior house finish in general, should constitute the basis of a prosperous exchange of commodities.—Tickle, Bell & Co., Liverpool.

FISHERIES

The Great Lakes are the largest freshwater fisheries in the world. Many lakes and rivers in Northern Ontario are not embraced in the regular industry; they are fished only, and to a small extent, by the white angler, the half-breed, or the Indian. The regular fisheries cover Lakes Superior, Huron, Erie and Ontario, Georgian Bay, Lake of the Woods and Rainy River, Lake St. Clair and River Thames, and certain inland waters chiefly in Old Ontario.

The principal fish taken are herring, in Lakes Erie, Ontario and Superior; trout, in Lakes Huron and Superior, and in Georgian Bay; whitefish, in Lakes Erie, Huron and Ontario, and in Lake of the Woods and Rainy River; pickerel in Lakes Erie and Huron, and in



Trout from Lake of the Woods.

Lake of the Woods and Rainy River; pike, in Lakes Erie and Ontario, and in Lake of the Woods and Rainy River; sturgeon, in Lake of the Woods and Rainy River, Lake Erie, Lake St. Clair and River Thames. The classes specified are not confined to these waters.

Hudson Bay, part of which is contiguous to Ontario, has an area of 500,000 square miles, Straits excluded. The fisheries of James and Hudson Bays have not been adequately investigated. There are over a hundred known species of fish, including many of the best varieties belonging to salt water and to fresh; also the whale, the fur-bearing seal and the cod. Hudson Bay has a seaport 1,500 miles nearer the prairie than Quebec, and the time may come when it will be a highway between Europe and the Northwest.

Yield and Value of the Fisheries of the Province for the Year 1918

Kinds of Fish	Quantity	Price	Value
		\$ c.	\$ c.
Herring, salted.....lbs....	331,550	10	33,155 00
Herring, fresh.....	19,384,086	05	969,204 30
Whitefish, salted.....	165,650	10	16,565 00
Whitefish, fresh.....	5,827,513	10	582,751 30
Trout, salted.....	613,154	10	61,315 40
Trout, fresh.....	6,681,100	10	668,110 00
Pike.....	1,386,818	08	110,945 44
Pickrel (Dore).....	1,720,335	10	172,033 50
Sturgeon.....	239,149	15	35,872 35
Eels.....	161,042	6	9,662 52
Perch.....	2,428,200	5	121,410 00
Tullibee.....	632,894	6	37,973 64
Catfish.....	670,507	8	53,640 56
Carp.....	1,208,258	2	24,165 16
Mixed and Coarse Fish.....	3,729,323	5	186,466 15
Caviare.....	9,277½	1.00	9,277 50
Sturgeon Bladders.....No....	2,061	60	1,236 60
Pickrel (Blue).....lbs....	813,259	10	81,325 90
Total.....			3,175,110 32

Comparative Statement of the Yield of the Fisheries

	1917	1918	Increase	Decrease
Herring, salted.....lbs....	321,900	331,550	9,650	
Herring, fresh.....	19,214,391	19,384,086	169,695	
Whitefish, salted.....	101,900	165,650	63,750	
Whitefish, fresh.....	4,644,121	5,827,513	1,183,392	
Trout, salted.....	179,350	613,154	433,804	
Trout, fresh.....	5,744,984	6,681,100	936,116	
Pike.....	1,557,370	1,386,818		170,552
Pickrel (Dore).....	1,956,846	1,720,335		236,511
Sturgeon.....	132,494	239,149	106,665	
Eels.....	168,985	161,042		7,943
Perch.....	1,517,069	2,428,200	911,131	
Tullibee.....	1,013,909	632,894		381,015
Catfish.....	442,043	670,507	228,464	
Carp.....	1,419,521	1,208,258		211,263
Mixed and Coarse Fish.....	3,848,386	3,729,323		119,063
Caviare.....	5,806	9,277½	3,471½	
Sturgeon Bladders.....No....	1,628	2,061	433	
Pickrel (Blue).....lbs....	565,476	813,259	247,783	
Total pounds.....	42,834,551	46,002,115½		
Total Increase, pounds, 1918.....			3,167,564½	

NOTE: In the Annual Report of Fisheries for 1918 the total catch for 1917 is shown partly in pounds and partly in barrels, which accounts for apparent difference between it and this statement.

MINERALS

The mineral resources of Ontario cover practically the entire list of metallics and non-metallics with the exception of coal and tin. The industry has two characteristic features, namely, variety of products and rapid growth. The following figures giving value of production by five-year periods show the rate of growth since the establishment of the Ontario Bureau of Mines in 1891. For purposes of comparison figures for the last year prior to the Great War are given, and also for each year since the outbreak of hostilities.

Year.	Value.	Year.	Value.
	\$		\$
1891.....	4,705,675	1913.....	53,232,311
1896.....	5,235,000	1914.....	46,295,959
1901.....	11,831,086	1915.....	54,245,679
1906.....	22,388,373	1916.....	65,303,822
1911.....	41,976,797	1917.....	72,093,832

Figures for 1918 show the output to be worth \$80,308,972. In other words, Ontario contributed 45 per cent. of the total mineral production of Canada, having a value of more than twice that of the output of her nearest competitor among the provinces of the Dominion. This premier position has now been held for several years.

The total value of the chief metals produced in Ontario, including figures for the year 1918, is as follows:

Silver	\$185,027,590
Nickel	138,010,542
Pig Iron	78,925,917
Gold	50,864,863
Copper	49,947,080
Cobalt	5,918,899

As regards pig iron from and including the year 1915 only the product from domestic iron ore has been included in the valuation.

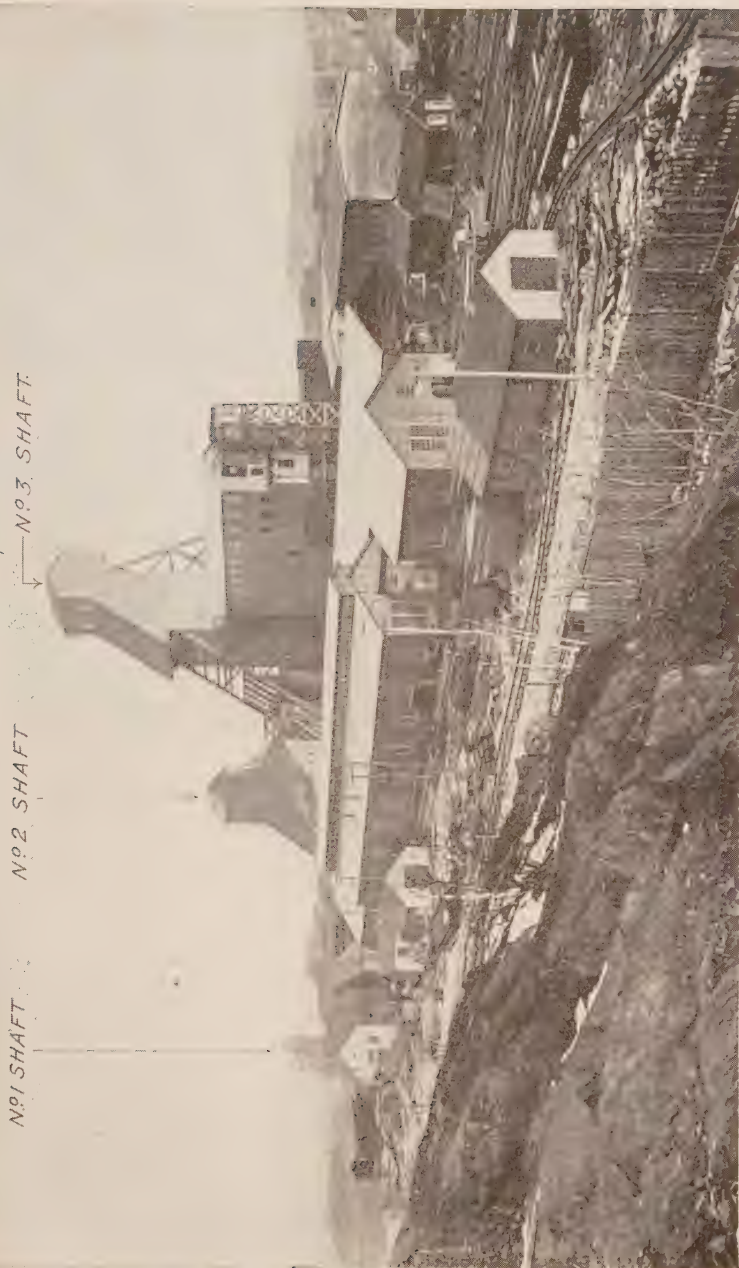
Nickel.—The Sudbury camp is the world's chief source of nickel. Nickel was first discovered in 1848 at the Wallace mine near the mouth of the Whitefish river, which enters Lake Huron

some distance east of Bruce Mines. The mineral attracted little attention, however, until 1883, when the Canadian Pacific Railway was constructed through this section. The first deposit of nickel actually found near Sudbury was what afterwards became known as the Murray mine. From 1887 to the end of 1918 nickel-copper ore smelted totalled 13,336,068 tons and contained 371,611 tons of nickel and 219,683 tons of copper. In 1918 a record was established for the production of nickel and copper. Ores smelted totalled 1,559,892 tons from which nickel-copper matte was produced containing 45,886 tons of nickel and 23,483 tons of copper, or 3,999 and 1,053 tons respectively in excess of any former year. Nickel-copper ores from the Sudbury camp are an important source of platinum, palladium and metals of the rhodium group.

The nickel refinery of the International Nickel Company of Canada at Port Colborne has been in operation since July, 1918. Construction work by the British America Nickel Corporation on the smelter at Nickelton and the electrolytic refinery on the Ottawa river, near Hull, Quebec, are well advanced, and it is expected that both plants will be in operation early in 1920.

Silver.—Since the discovery of silver at Cobalt in 1903, shipments from the camp and outlying silver areas up to December 31, 1918, were 292,385,866 ounces, worth \$169,292,351. Total figures for the Province in 1918, show an output of 17,738,153 ounces, valued at \$17,415,882. Although production has declined gradually since 1911 when 31,507,791 ounces were marketed, the value of metallic silver in 1918, owing to high prices, exceeded that for the banner year of production. Outlying camps, including South Lorrain, Casey Township, and particularly Gowganda, have contributed to the total output. In addition, a small quantity of silver is recovered from the refining of gold and nickel-copper ores.

Gold.—Prior to the discovery of gold at Porcupine in 1909, mining of the precious metal, in western Ontario chiefly, was carried on with indifferent success. Since 1910, when the Porcupine camp arrived at the producing stage, Ontario has had a considerable output of gold, and now occupies first place among the Canadian provinces in the production of this metal. For 1918 the gold output of the Province was 411,878 ounces, worth \$8,502,480. An output of



CREIGHTON NICKEL-COPPER MINE, SUDBURY DISTRICT, ONTARIO.

The Creighton is the greatest nickel mine in the world. During the war it was worked to the maximum of its capacity, and in 1918 produced 1,104,673 tons of ore, which contained approximately 33,000 tons of nickel and 15,500 tons of copper.

\$10,000,000 is estimated for 1919. Operating conditions have improved gradually since the termination of the war. Porcupine, to the end of 1918, has produced \$44,197,973 in gold. Kirkland Lake is now coming to the fore rapidly, and the newer fields at Larder Lake, Boston Creek and West Shiningtree give considerable promise.

Dividends.—Profits derived from the mineral industry are considerable. Excepting privately owned mines, dividends and bonuses paid to December 31st, 1919, were \$78,334,762.87 from the Cobalt silver camp, and \$15,545,238.20 from the Porcupine and Kirkland Lake gold camps.

Non-Metallic.—Construction materials, including brick, stone, lime, cement, etc., were produced in greatly decreased volume during the war. Production of certain non-metallic minerals, however, was stimulated, notably graphite, fluorspar, quartz, iron pyrites for sulphuric acid manufacture, and petroleum. The total value of non-metallic minerals for the five-year period prior to the war increased steadily from \$10,052,879 in 1909 to \$15,724,376 in 1913.

Mining Laws.—Under the Mining Act of Ontario patent of a mining claim of 40 acres may be obtained after performing 240 days' assessment work, and on payment of \$2.50 or \$3.00 per acre, depending on location in surveyed or unsurveyed territory. A miner's license costing \$5 entitles a prospector to locate three claims in each mining division in any year.

For list of publications, illustrated annual reports, geological maps, mining laws, etc., application should be made to the Deputy Minister of Mines, Parliament Buildings, Toronto.

MINERALS

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Mineral Statistics of Ontario for 1918

Product	Quantity	Value	Em- ployees	Wages
METALLIC:		\$		\$
Gold.....oz.....	411,878	8,502,480	2,128	2,647,155
Silver.....lbs.....	17,738,153	17,415,882	2,539	3,283,179
Copper.....lbs.....	1,211,922	270,430	3,735	7,233,289
Copper in matte (a).....tons.....	22,951	8,262,360		
Nickel in matte (a).....".....	44,297	26,578,200	471	615,629
Iron Ore exported (b).....".....	107,273	624,364		
Iron, pig (c).....".....	50,072	1,364,736	851	1,241,232
Cobalt (metallic).....lbs.....	404,348	887,960	643	750,237
Cobalt oxide.....".....	477,583	727,170		
Nickel oxide.....".....	406	106		
Nickel (metallic).....".....	3,450,550	1,262,116		
Other Nickel and Cobalt compounds.....	453,515	73,247	37	41,238
Lead, pig.....".....	1,670,251	149,841		
Molybdenite (concentrates).....".....	47,614	59,067	92	69,907
Total Metallic.....		66,178,059	10,496	15,881,866
NON-METALLIC:				
Actinolite.....tons.....	228	2,508	10	1,556
Arsenic, crude and white.....lbs.....	5,090,818	566,332	(d)	(d)
Barite.....tons.....	60	900	17	12,700
Brick, fancy and pressed.....M.....	25,377	396,698	1,027	667,715
Brick, common.....".....	49,498	665,454		
Brick, sandlime.....".....	7,941	91,508	68	35,557
Cement, Portland.....bbls.....	1,226,244	1,910,839	425	423,580
Corundum.....tons.....	137	26,120	35	13,428
Feldspar.....".....	19,784	111,173	138	100,302
Fluorspar.....".....	7,286	153,190	129	85,783
Graphite, crude and refined.....".....	2,934	208,848	128	102,777
Gypsum, crushed, ground and calcined.....	38,214	151,564	71	65,574
Iron pyrites.....".....	270,966	1,144,737	621	707,020
Lime.....bush.....	2,650,285	872,177	287	300,746
Mica.....tons.....	275	49,575	44	30,612
Mineral Water.....Imp. gals.....	298,498	133,808	45	20,769
Natural Gas.....M. cu. ft.....	13,075,742	2,498,769	872	756,225
Petroleum, crude.....Imp. gals.....	10,106,615	781,097	84	93,810
Pottery.....".....		88,275	22	22,061
Quartz.....tons.....	213,420	452,711	207	187,635
Salt.....".....	131,726	1,287,039	302	275,842
Sand and Gravel.....cu. yds.....	1,023,497	553,638	353	252,760
Sewer Pipe.....".....		362,536	171	139,775
Stone, building, trap, granite, etc.....		869,239	631	478,070
Talc, crude and ground.....tons.....	17,465	246,691	43	41,936
Tile, drain.....".....	13,087	309,899	(e)	(e)
Tile, hollow building.....".....		195,588		
Total non-metallic.....		14,130,913	5,730	4,816,253
Add metallic.....		66,178,059	10,496	15,881,866
Grand Total.....		80,308,972	16,226	20,698,119

(a) Copper and Nickel in the matte valued at 18 and 30 cents per pound, respectively, in 1918, and at 18½ and 25 cents in 1917.

(b) Total shipments of iron ore, 198,882 tons. (c) Production from Ontario ore only.

(d) Included in the figures for Cobalt. (e) Included with brick.

Preliminary statistics of mineral production for 1919, subject to revision, show a marked decrease in the output of metals, especially those required for war purposes. Despite this fact the value of the total production was \$57,482,113, exceeding that of the best pre-war year, 1913, by four and a quarter million dollars. Gold produced in 1919 was \$10,451,688, or \$112,429 in excess of the best previous year, 1916. Ontario's gold output now exceeds that of any other Province in Canada or State of the American union, California alone excepted.



Niagara Falls

Thy seas, impatient, madly leap
Down, down destruction's cauldron deep—
 Their dying roar appals;
They live again, in joy prevail,
And weave a snow-white rainbow veil
 O'er world-entrancing Falls.

WATER POWERS

Canada

Water power has played a most important role in the industrial development of the Dominion, and with the advances in electrical science, the role will yet be greater. In the extent and location of its white coal, probably no country in the world is more fortunate than Canada. Abundance of water power for all present and future needs is available in practically every commercial centre from coast to coast, except a few in the middle prairie provinces. The outstanding feature of Canada's water powers is indeed the convenient location of these stupendous resources. Again, where there is not sufficient white coal there is abundance of black. So far, therefore, as sources of energy are concerned, Canada is pre-eminent.

Including only the development permitted by international treaties at Niagara Falls, Fort Frances and Sault Ste. Marie; excluding the Northwest Territories, nearly all the Yukon, and northern and eastern Quebec; and omitting consideration of future improvement by storage, it is estimated that within the Provinces of the Dominion the available horse-power is 19,568,000.

Water Power Available in Canada

Province.	Area.	Population.	Water power.
	Square miles	Number.	Available horse power.
Alberta	255,300	521,852	471,000
British Columbia.....	355,900	615,680	3,000,000
Manitoba.....	251,800	572,200	3,218,000
New Brunswick	28,000	364,375	300,000
Nova Scotia	21,400	511,829	100,000
Ontario	407,300	2,741,691	*5,800,000
Prince Edward Island.....	2,200	93,728	3,000
Quebec.....	706,800	2,239,276	6,000,000
Saskatchewan	251,700	673,945	576,000
Yukon	207,100	8,512	100,000
N. W. Territories	1,242,200	18,481	No estimate
Total.....	3,729,700	8,361,569	19,568,000

*Later estimates for Ontario are 6,004,000 h.p.

The developed powers, which are inclusive of all water-powers, whether for electrical production, pulp-grinders, for milling, or for the great many other uses, aggregate 2,305,310 horse-power:

Water Power Developed in Canada in 1918

(Dominion Bureau of Statistics)

	Electrical H.P.	Pulp and Paper H.P.	Other Industries H.P.	Total H.P.
Alberta	32,580	.....	300	32,885
British Columbia	221,625	46,450	44,348	312,423
Manitoba	64,100	.....	12,072	76,172
New Brunswick	6,878	2,800	5,191	14,869
Nova Scotia,....	3,354	13,500	9,170	26,024
Ontario	791,163	133,952	59,945	985,060
Prince Edward Island.....	170	.....	1,559	1,729
Quebec.....	597,601	155,512	89,648	842,761
Saskatchewan .....	.....	.....	.....	.....
Yukon.....	10,000	.....	3,392	13,392
Total H.P.	1,727,471	352,214	225,625	2,305,310

The extent of the future development can be limited only by the available water powers. Practically all of the 2,305,310 horse-power enumerated above has been developed within the last twenty-five years, and of this the last fifteen years has seen practically two-thirds of the total produced. If such a rate of increase were carried into the future the 8,000,000 horse-power, estimated to be available within range of present markets, will be entirely in use within fifteen years, and even by liberally discounting such a rate, notwithstanding our confidence in a prosperous future, such a condition of development may be readily approached within a generation.

Outside of the Niagara District the greatest amount of water-power of immediate economic importance is found along the St. Lawrence River. On a conservative basis, the low-water power of the international portion of the St. Lawrence River may be estimated at about 800,000 h.p., of which Canada is entitled to one-half, or 400,000 h.p. The correspondingly estimated low-water power on the portion of the river which lies wholly within Canada is about 1,400,000 h.p., thus making an estimated total for Canada of 1,800,000 low-water continuous h.p. Assuming the diversity load-factor of the present Niagara system of the Hydro-Electric Power Commission of Ontario, Canada's 1,800,000 h.p. on the St. Lawrence would take care of a power demand of some 2,400,000 h.p. The St. Lawrence River power sites are detailed in the next table.

Water Power on the St. Lawrence River

(Tentative Schedule) (a)

Site.	Head available.	Estimated Low-water 24-hr. h.p.	Average Estimated 24-hr. Low- water h.p.
Morrisburg-Rapide Plat } Ontario ..	11-15	170,000-230,000	200,000
Long Sault rapid.....	30-40	500,000-650,000	575,000
Coteau rapid	15-17	230,000-260,000	250,000
Cedars rapid	30-32	490,000-525,000	500,000
Split Rock and Cascades rapids	14-18	220,000-280,000	250,000
Lachine rapid.....	20-30	300,000-450,000	375,000
Total .....	.....	1,910,000-2,395,000	2,150,000

(a) In this table, to have the estimates fairly representative of the possible quantities which might be expected under representative low-water flow conditions, some allowances have been made for efficiency and other factors.

The administration of all waters in British Columbia, Ontario, Quebec, New Brunswick, and Nova Scotia, respectively, is under provincial control.

Ontario

The prosperity of the Province until twenty years ago depended upon transportation by the Great Lakes, rivers and canals, upon the development of the agricultural and lumber industries, and upon Pennsylvania coal. Since that time the assets have been added to by the Sudbury, Cobalt and Porcupine mines. Then came the immense water-power resources of Niagara, resulting largely from the rapid progress of the art of high voltage transmission.

The development of Niagara power marks an epoch in the industrial history of the Province, not only through the displacement of steam generated power but from the fact that the availability of large quantities of cheap water-generated power has transformed laboratory experiments into immense electro-thermal and electro-chemical industries.

The water-power potentialities of Ontario are magnificent. The *prima facie* evidence of this lies in the existence of immense lakes and many large rivers in an area of over 400,000 square miles.

The drainage system of the Province comprises four main divisions, namely, the territories drained respectively by the Ottawa River and its tributaries, by the tributaries of the Great Lakes, by the rivers flowing into James Bay, and by the Winnipeg River and its tributaries.

The rivers forming the arteries of the drainage system will naturally possess variant characteristics, as the distance between the east and west extremities of the Province is 1,000 miles, while between the north and south it is 1,075.

The absence of coal in Ontario makes the many water-powers



South Falls, Muskoka River.

in that vast area exceptionally valuable. It is true that electrical energy can never replace coal for the general heating of dwellings and factories, but the wide use of water-powers, substituting hydro-electric power for that of steam, makes a tremendous saving of coal possible.

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

The Hydro-Electric Power Commission was appointed in May, 1906, by the Provincial Legislature of the Province of Ontario, to undertake the development, generation, transmission and distribution of electrical energy at cost to various municipalities throughout the Province. This action on the part of the Legislature was inspired by representatives of a number of municipalities, the latter desiring to share the benefits which might be derived from an em-



Hydro-Electric Power Commission Building, Toronto.

ployment of the vast amount of available hydraulic power existing within the confines of the Province. The Commission is essentially a non-political body.

The necessary capital to finance this scheme was furnished by the Province. The municipalities purchase power at rates which cover the actual cost of power, interest and sinking fund charges on the transmission and distributing system, and operation and maintenance expenses. The project itself will never become a direct tax upon the people or the municipalities which have contracted with the Commission for power. The Government has merely agreed to finance the scheme and receives in return a fair rate of interest on its investment. The entire capital expenditure will eventually be recovered through the sinking fund charges, and after this is returned to the Government the municipalities will nominally own the transmission system.

An idea of the development which has taken place in connection with the Hydro-Electric System may be obtained by considering the amount of power sold during its existence. On October 31, 1910, the load of the system was 750 horse-power. In 1915 the load was 130,000 horse-power. In 1919 it was 250,000 horse-power.

The growth is shown by the increase in the number of towns served. In 1912, 28 towns; 1913, 45; 1914, 69; 1915, 99; 1916, 128; 1917, 143; 1918, 166; 1919, 185.

The number of consumers in 1912 was 34,967, of which 33,568 were lighting customers and 1,399 power customers. In 1918 the number was 184,000. The population served towards the end of 1919 was 1,205,000.

The importance of the Commission to the industrial life of the Province was remarkably shown by developments since the war began. If it had not been for Hydro power the munition manufacturers in Ontario would have been in a very poor position owing to the want of power because the amount of available coal had been greatly restricted.

The quantity of bituminous coal necessary to develop about 250,000 horse-power (the amount of power supplied by the Commission in 1919) is estimated at considerably over 5,000,000 tons. In normal conditions this quantity of coal would have a money value exceeding \$22,000,000. At the present time (December, 1919) it would cost about \$40,000,000.

The total amount of power capable of development in the Province is approximately as follows:

Ontario	Horse Power
Ottawa River and Tributaries.....	638,000
Great Lakes and Tributaries.....	466,000
Hudson Bay Slope (including Patricia).....	900,000
James Bay Slope.....	1,500,000
International Boundary Rivers.....	2,500,000
Total potentiality.....	6,004,000

Total developed power in these resources, 985,000 h.p.

At Niagara Falls the Electrical Development Co. are generating 125,000 horse-power, the Canadian Niagara Power Co., 100,000 horse-power, and the Hydro-Electric Power Commission of Ontario 200,000 horse-power at present.

Besides the Niagara System, the Commission is operating the following systems:

The Hydro-Electric Systems	Horse power Developed	Horse power Potential
Severn System.....	3,000	5,000
Wasdell's Falls System.....	1,100	1,100
St. Lawrence System.....	500	2,000
Ottawa System.....	10,000	20,000
Port Arthur System.....	20,000	140,000
Eugenia System.....	4,000	8,000
Muskoka System.....	1,500	6,000
Northern Ontario System:		
Electrical capacity	1,200	3,000
Hydraulic	2,200	
Central Ontario System:		
Normal	22,600	60,700
Maximum	27,000	75,500

The Queenston-Chippawa Development will have an initial capacity of 200,000 h.p., which can be increased to 450,000 h.p., and the Nipigon Development, 25,000 h.p. Both are under construction.

By 1921, the Commission expect there will be 750,000 h.p. generated.

The construction of the proposed electric radial railways will require a large amount of power within the next few years.

The Commission have built 454 miles of high tension transmission lines and 2,069 miles of low tension pole lines, from 44,000 volts to 4,000 volts, or a total of 2,523 miles.

As stated previously, the rate which the Commission charges the municipality for power is based on actual cost and is adjusted annually by the Commission. As the load increases, the cost of delivering power becomes less and the municipality pays for its power at this lesser rate. As an example, we cite some of the towns in Western Ontario, as follows:

—	1912	1913	1914	1915	1916	1917	1918	1919
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Toronto.....	18 50	15 00	15 00	15 00	14 50	14 50	14 50	14 50
London.....	28 00	24 00	23 00	23 00	22 00	21 00	21 00	19 00
St. Thomas..	32 00	29 00	28 00	28 00	27 00	26 00	26 00	24 00
Port Credit..	36 79	31 00	28 00	28 00	27 00	27 00	27 00	25 00
Ottawa.....	15 00	15 00	15 00	14 00	14 00	14 00	14 00	14 00
Guelph.....	25 00	22 00	21 00	21 00	20 00	20 00	20 00	19 00
St. Mary's....	38 00	29 50	29 50	29 50	28 00	28 00	28 00	28 00
Hamilton....	17 00	16 00	15 00	15 00	14 00	14 00	14 00	14 00
Waterdown..	37 50	26 00	26 00	26 00	26 00	26 00	26 00	26 00
Waterloo....	26 00	23 50	22 50	22 50	22 00	21 00	21 00	20 00
Hespeler....	26 00	23 00	23 00	23 00	22 50	21 00	21 00	21 00

The peak loads on the various systems and number of municipalities supplied by the Commission on October 31, 1918, were as follows:

System.	Peak Loads. h.p.	Municipalities. Supplied.
Niagara System.....	155,500	119
Central Ontario.....	26,139	22
Wasdell's System.....	1,050	5
Eugenia System.....	3,870	19
Severn System.....	3,400	17
St. Lawrence System.....	540	5
Ottawa System.....	6,390	1
Port Arthur System.....	3,974	1
Muskoka System.....	902	2
Northern Ontario.....	1,200	4
Rideau System.....	440	2
Total.....	203,405	197
	Townships.....	33
	Total.....	230

Up to October 31, 1918, the capital invested by the Hydro-Electric Power Commission in its various systems, exclusive of capital invested by municipalities, was \$28,880,000. Additional capital which will be expended, due to the purchase of the Ontario Power Company, approximately \$23,000,000, or a total of \$51,880,000.

In addition to this, the Commission are operating the Electric Power Company's System, which was purchased in 1917 by the

Government of Ontario. Capital expenditure on this system is approximately \$10,023,000, making a grand total of approximately \$61,903,000.

Besides the paying of operating expenses and fixed charges on this system and reducing the cost of power to the municipalities, as above outlined, the Commission have put aside as an accumulated sinking fund and renewals reserve account a sum of \$1,950,000.00, to amortize the investment and provide for the replacing of apparatus when it has served its useful life. The Commission's finances are very conservatively managed and all transactions are placed on a sound business and financial basis.

The financial operation of the 166 co-operative municipalities which comprised the Hydro-Electric System has been very gratifying. The characteristic feature of the operation in recent years has been a steady increase in cash balances which, in some cases, now amount to more than 25 per cent. of the total plant cost, notwithstanding the fact that the Commission have, from year to year, made reductions in the rates of the various towns and cities. Many local commissions have invested largely in Canadian war loans. The net credit balance of surplus from the year's operation in 166 municipalities amounted to \$418,697.23. Of the total accumulated surplus of \$7,805,472.73 at the end of 1918, approximately \$2,289,100 has been invested in plant extension.

The 166 municipalities on the Hydro System have \$22,352,951 invested in their local plant and distributing systems. After paying all fixed and operating charges these municipalities up to the end of 1918 have put aside in the form of debentures paid, sinking fund and depreciation reserves, the sum of \$5,716,229. In addition to this, they have accumulated a surplus of \$2,089,243, making a grand total of accumulated surplus and reserves of \$7,805,472. It should be remembered that this has been accomplished by the municipalities, in spite of the fact that the Commission have regulated their retail rates downwards year by year with a view to reducing surplus profits. The reserve funds, above mentioned, are put away for the purpose of meeting contingencies and for allowing for apparatus replacement due to depreciation, and also for the purpose of amortizing the investment at the end of the debenture period.

The entrance of Hydro into the light and power business in

the Province was responsible for a very great reduction in the retail rates of the private companies doing business in Ontario. Before Hydro entered the field in Toronto the domestic rates were 8c. per K.W.H., plus 25c. a month meter rental. In 1918 the Hydro rates in Toronto averaged $2\frac{1}{2}$ c. per K.W.H. Previous to Hydro entering the field in Toronto the commercial rates were 12c. per K.W.H., plus 25c. per month meter rental. In 1918 the commercial lighting served by Hydro averaged 2.2c. per K.W.H. In 1912 the Toronto Hydro-Electric System had 11,959 customers. In 1918 this number had increased to 53,700—an increase of four hundred per cent. in six years.

It should be remembered, in connection with these figures, that private ownership was very firmly entrenched in Toronto and competition was of the keenest. In 1912 rates for power delivered to the City of Toronto by Hydro were \$18.50, while in 1918 they were reduced to \$14.50. The City of Hamilton is another city where the Hydro has had keen competition. The domestic rates, previous to the entrance of Hydro, were 8c. per K.W.H., plus 25c. per month meter rental. In 1918 under Hydro operation they averaged 2.3c. per K.W.H. The commercial rates, under private ownership, were 8c. per K.W.H. In 1918 Hydro rates averaged 1.5c. for the same service. In 1913 Hamilton had 6,250 customers, while in 1918 they had 17,600. In 1912 the rate for power to Hamilton was \$17, while during 1918 the rate charged by the Hydro was \$14.

As an illustration of what is happening in this direction it may be stated that in Toronto in 1913 the average monthly domestic consumption was 25 kilowatt hours, and the average monthly bill for that consumption was \$1.25, while in 1918 the average monthly consumption was 36 kilowatt hours, and the average monthly bill was only 89 cents for the increased quantity of electricity. Had the average monthly consumption remained what it was in 1913 the average bill would have been only 77 cents as compared with \$1.25. This condition obtains practically all over the Province wherever the Commission is supplying electric energy. Prior to the date when the Commission began to furnish a supply of current the rates in force were much higher; taking Toronto as an example again, the cost of 29 kilowatt hours per month would have been $29 \times 8 = \$2.32$, plus 25c. meter rent, totalling \$2.57, as against the above figure of 89 cents.

In 1916 the total domestic consumption in 108 of the municipalities served at that time amounted to 106,000,000 kilowatt hours, supplied to 112,050 consumers. Had these consumers been taking current at the old pre-Hydro rates their aggregate bill for the year would have been \$3,455,622.00, whereas at the Hydro 1916 rate it approximated \$1,075,680.00—a difference of \$2,380,000.00 for one year's sales. It must be remembered, too, that these reductions in rates have been made possible after providing ample sums to cover depreciation and sinking fund and all other charges. Similar conditions may be found in rates for commercial lighting, street lighting and power supply.

Taking some of the smaller towns (Kitchener, for instance), previous to Hydro the domestic rates were 11c. per K.W.H., plus 25c. a month meter rental. Under Hydro they averaged 3.1c. per K.W.H. for 1918.

The rates at Galt, previous to Hydro, were 11c. per K.W.H., while in 1918, under Hydro, they averaged 2.2c. per K.W.H.

These figures are sufficient to show what Hydro has done for the municipalities in Ontario in the way of procuring cheap lighting rates for the citizens of the various municipalities served.

In a statement made on April 15, 1918, Sir Adam Beck, Chairman of the Hydro-Electric Power Commission of Ontario, said:

"The Commission up to date has invested \$53,000,000 in transmission, distributing and generating systems, and the municipalities have invested \$17,000,000, or a total of over \$70,000,000. We anticipate by 1921 that we will have jointly invested over \$100,000,000 in hydro-electric power systems in the Province of Ontario. In 1921 we will have available 750,000 horse-power for the use of the people of the Province. You may like to know what benefit has accrued to the country on account of all this expenditure. We have reduced by five or six million tons per annum the consumption of bituminous coal in the Province of Ontario. We have reduced the freight haul on all this coal (the use of cars to haul the coal), and to a large extent eliminated the obnoxious smoke that is created by the use of coal for manufacturing purposes in towns and villages. Electric power has been made available to every community, small or large, from a township to the largest city, conditional only on its being prepared to make a contract with the Commission and assume the liability that accrues on account of such an undertaking. There is no discrimination. The small user buys electricity at the same price as the large user. There is a standard rate in every community which applies, whether you use ten horse-power or 10,000 horse-power. In the case of domestic users the small consumer buys it for less than the large user. There is no such thing as a flat rate to any consumer. When we took over some of the companies we found that there were some individuals in a community that got a very much lower rate or power than others. We found that the large user got power at a low price and the small user had to pay four or more times as much as the large user paid. We wanted to

encourage the wagon-maker, the blacksmith and the industry that might use a small amount of power, so we fixed an equitable, fair and just rate for all users."

On other occasions Sir Adam Beck said: "This power is sold to the people at cost price, and it means power not only to the cities but to the villages and to many of the farmers of the Province of Ontario, and I could not begin to tell you of the great benefit it is going to be. What can you do with power on the farm? You may cook; you may heat; operate all the machinery on the farm, whether a plow, a harrow, a reaper, a mower, or the modest cream separator, the washing machine, the iron, the sewing machine; you may light up your farm, or do the milking. Farm labor is expensive and scarce, and that makes farm life more burdensome. When labor is scarce and expensive, anything that takes its place is a help to the farmer, and we must encourage the farmer, because agriculture takes the first place in the Province of Ontario."



The Notch, Montreal River, Lake Timiskaming.

TRANSPORTATION

Transportation, rapid and efficient, is vital to the development of Canada politically, socially and commercially. The emphasis of this statement lies in the fact that Canada has an area of nearly three and three-quarter millions of square miles, that it is only slightly smaller than the continent of Europe, and is larger than the United States of America. Thus, as a leading daily says: "The creation and development of a great national system of transportation, serving all parts of the Dominion, is a public project that commands encouragement and support from every section of the country. It affects directly the growth and progress of the whole nation."

Important as is the great St. Lawrence chain of waterways it is surpassed in importance by the greater chains of railways.

The leading railway systems operating in the Dominion are four in number, the Grand Trunk, the Grand Trunk Pacific, the Canadian Pacific, and the Canadian National Railways.

During the year ended June 30th, 1918, the Canadian railways (steam) handled 3,190,025,682 passengers, one mile over their rails, which total is nearly 40,000,000 greater than for the year ended June 30, 1917. The record of freight moved one mile was 31,029,072,279 tons. The gross earnings attained to the total of \$332,777,937, as compared with \$313,492,949 during the preceding year. The total operated mileage was 38,879, which was an increase of 274.32 miles over the preceding twelve months and 8,084 greater than in 1914, the year of the outbreak of the war.

Railway building in Ontario was inaugurated early. The chief centres of the Province to-day are connected by trunk lines, with branches radiating from the leading points to all portions of the settled areas. The province owns and operates the Temiskaming and Northern Ontario Railway between North Bay and Cochrane, through the great Cobalt mining country to the Clay Belt in Northern Ontario. The great transcontinental lines joining the Atlantic seaboard to the Pacific by the vital bands of steel have had to traverse the province through the wide regions of the north. Accordingly the total mileage of the steam railways in Ontario—11,057 miles—is easily greater than that of any other province in Canada.



Bigwin Island, once the favorite camping ground of the Iroquois Indians. (G.T.R.)

THE GRAND TRUNK RAILWAY SYSTEM

The principal eastern termini of this system are at the City of Montreal and the City of Quebec on the St. Lawrence River, and at Portland on the Atlantic seaboard in the State of Maine. From Quebec the road runs along the south shore of the St. Lawrence River, which it crosses by the Victoria Jubilee Bridge at Montreal. After leaving Montreal the line enters the Province of Ontario and continues westerly through the thickly settled country along the north shore of the St. Lawrence and Lake Ontario to Toronto, 334 miles from Montreal. At Toronto lines diverge to the west and south through the fertile Niagara district to Niagara Falls and across the Niagara River by the single arch double track steel bridge, thence to Buffalo in the State of New York, and through the southwestern portion of the Province to Windsor and Detroit. West and north from Toronto lines run to the lake ports of Sarnia, Goderich, Kincardine and Southampton on Lake Huron, and to Wiarton, Owen Sound, Meaford, Collingwood, Penetanguishene, Midland and Depot Harbour (Parry Sound) on the Georgian Bay, and through the famous "Highlands of Ontario" to North Bay, where a junction is made with the Canadian Pacific transcontinental line and the Timiskaming and Northern Ontario Railway. At Sarnia the main line of the railway passes through the St. Clair tunnel to Port Huron, and thence to Chicago. From Montreal a line extends to Ottawa on the Ontario side of the Ottawa River, and from thence to Depot Harbor on Georgian Bay, a distance of 380 miles; another from Belleville and Port Hope on Lake Ontario to Midland on the Georgian Bay. Besides these lines there are numerous local branches which act as feeders, extending into nearly every section of the older portion of the Province.

In all, 3,000 miles of the Company's railway are in the Province of Ontario, 650 miles of which is double main track extending from the easterly boundary of the Province, westerly via Toronto, Niagara Falls, Hamilton and London to Windsor and Sarnia. It has in all 1,019 miles of double track, making it the longest continuous double track railway in the world under one management.

Prior to 1898, the Grand Trunk did not handle any grain from Lakes Superior and Michigan through the Georgian Bay and St.

Clair River ports for export via Montreal, but since that time it has done a large and increasing share of the business.

Some of the fastest long distance trains in the world are operated over the Grand Trunk, and a special service of limited passenger trains is operated between the Atlantic Ocean and Chicago. During 1919 the system carried in Canada 11,589,738 passengers, and 23,014,904 tons of freight.

GRAND TRUNK PACIFIC RAILWAY

The Grand Trunk Pacific Railway Company was incorporated in October, 1903, and the through line from Winnipeg, Man., to Prince Rupert, B.C., 1,755 miles, was completed and opened for traffic in August, 1914.

The Grand Trunk Pacific traverses the Provinces of Manitoba, Saskatchewan, Alberta and British Columbia, passing through some of the finest agricultural and grazing lands in Western Canada, and also reaches many of the larger centres of commerce and industry in the Prairie Provinces. The railway penetrates the Canadian Rockies through the Yellowhead Pass, and is conceded to have the lowest gradients of any United States or Canadian Railways reaching the Pacific Coast. This route, through Jasper National Park, Mount Robson Park and along the Skeena River, furnishes some of the finest mountain scenery in the world.

In addition to the main line, branch lines have been completed and are in operation, amounting to 1,049 miles, making a total mileage main line and branch lines; of 2,804 miles.

The Grand Trunk Pacific steamships operate a regular service, both freight and passenger, connecting with the railway lines between Prince Rupert, B.C., and Anyox, Prince Rupert and Queen Charlotte Islands, Prince Rupert and Vancouver, Victoria and Seattle, Wash.

THE CANADIAN PACIFIC RAILWAY

This great railway company, which was incorporated in 1881, now owns or controls over 18,600 miles of completed road. With its steamship and rail systems its service reaches from Liverpool to Hong Kong—more than half way around the globe. The C.P.R. is

something more than a mere transportation company. Besides its steamships on the Atlantic and Pacific oceans, on the Upper Lakes and on the coast and inland waters of British Columbia, the Company operates a chain of hotels extending from New Brunswick to British Columbia, owns its own telegraph and express services and its own system of sleeping, parlor and dining cars, and has vast irrigation works in the west, coal mines in the Rockies and smelters in the mining regions of Southern British Columbia. It is also the holder of millions of acres of fertile lands in Manitoba, Saskatchewan and Alberta.

The lines of the Canadian Pacific Railway extend from St. John, New Brunswick, an ocean port on the Atlantic, and from the city of Quebec to Montreal, and after leaving the latter city the main transcontinental line continues up the valley of the Ottawa River as far as Mattawa, where a branch extends northward to Lakes Timiskaming and Kipawa. From Mattawa it turns westward and crosses the entire Province of Ontario north of the great lakes, continuing on through Manitoba and the western Provinces to Vancouver on the Pacific, a total distance from St. John of 3,367 miles. From Sudbury, in the Sudbury District, there is a branch line 179 miles long, which runs along the north shore of Lake Huron to Sault Ste. Marie, where connection is made with railways in the United States.

In Ontario its lines include the following: the Ontario and Eastern Divisions, Montreal to Toronto, 340 miles; Ottawa to Prescott, 53 miles; Ottawa to Brockville, 77 miles; Toronto to Windsor and Detroit, 226 miles; Toronto to Owen Sound, 121 miles, with the Walkerton, Wingham, Teeswater and Elora subdivisions; the Guelph and Goderich branch, 95 miles, with the Listowel subdivision; the Kingston and Renfrew, 103 miles, and there are branches which lead to Bobcaygeon, St. Mary's, St. Thomas, Port Burwell, etc. The line from Toronto to Sudbury, 260 miles, makes easy of access the Muskoka lakes and the 30,000 islands of Georgian Bay, the line traversing the very heart of this picturesque region.

The line between Port McNicoll and Bethany Junction, which is on the main line near Peterboro, provides a short route between east and west *via* Lake Simcoe; and a line between Hamilton and

Guelph Junction links Guelph, Galt and Goderich closer to Hamilton than heretofore.

In Western Canada the Company is building branches in many directions, and in British Columbia its lines are being extended.

The gross earnings of the railway are rapidly growing. In the year 1913 they amounted to \$139,395,699; in the year 1918 to \$157,537,698.



Orient Bay Tunnel, Nipigon country, (C. N. Rys.).

CANADIAN NATIONAL RAILWAYS

The lines formerly known as Canadian Government Railways and those of the Canadian Northern are all included in one great system called Canadian National Railways. The system has its headquarters at Toronto. It is the only Canadian system that serves the nine provinces of the Dominion of Canada. Its lines traverse Prince Edward Island in the Gulf of St. Lawrence and run from

Sydney in Nova Scotia to the Pacific at Vancouver and Victoria. They serve practically every ocean port in Canada, all the political capitals, nearly all the important points, and traverse the great areas where the development of the next quarter of a century should take place. Such an area is the Clay-Loam Belt in Northern Ontario.

The system, the stock of which is all owned by the people of Canada, comprises 14,000 miles of railway, and the management are also operating the vessels of the fleet of the Canadian Government Merchant Marine, also owned by all the people. These



Canadian National Railways, west of Cochrane.

ships will sail on Canadian inland waters, and from the ocean ports of the country to all parts of the world.

One main line of Canadian National Railways extends in Ontario from Hawkesbury on the Ottawa River through Ottawa, North Bay, Capreol, Port Arthur, Fort William and Fort Frances, on to the Manitoba frontier and beyond to the Pacific coast. Another transcontinental line traverses Ontario from Goodwin to White; lines extend from Ottawa to Toronto through the Rideau Lakes; from Toronto to Capreol through the heart of the Muskoka country; from Fort William to Superior Junction; from Picton on the Bay of Quinte, through Trenton and north through Central

Ontario to Maynooth; from Bancroft to Kinmount Junction; Banrockburn to Yarker; Westport to Brockville; and the system has also running rights over the line between Harrowsmith and Kingston.

There is a Canadian National Steamer service from Toronto to Port Dalhousie and electric lines from Port Dalhousie to St. Catharines, Merritton, Thorold, Niagara Falls, Welland and Port Colborne on Lake Erie, and other electric lines from Toronto to Guelph, and Toronto to Woodbridge.

The C.N.R. has extensive plans for the further development of the system in Ontario, but the management is not in a position to indicate in what direction further expansion will be. At present the mileage of the rail lines of the system in the province is 3,247.

There is a close relationship between Canadian National Railways and the development of the newer districts of the province. Its lines traverse rich, heavily-wooded lands in the north for many hundreds of miles, and the opening up of these areas to settlement will play a most important part in the expansion of permanent prosperity throughout Ontario.

The Parliament of Canada has authorized the Government to secure on terms to be decided by arbitration the lines of the Grand Trunk Railway System in Canada and the United States.

The lines of the Grand Trunk Pacific Railway Company are already in the hands of the receiver, in this case the Minister of the Department of Railways and Canals at Ottawa.

The total mileage of these Grand Trunk lines is 8,173; 6,508 of which are in Canada and 1,655 in the United States. This means that when this arrangement is consummated the total mileage of the Canadian National Railways would be 22,375 miles distributed as follows:

In the Province of	Prince Edward Island	279 miles.
"	" Nova Scotia	1,038 "
"	" New Brunswick	1,107 "
"	" Quebec	2,496 "
"	" Ontario	6,352 "
"	" Manitoba	2,320 "
"	" Saskatchewan	3,576 "
"	" Alberta	2,099 "
"	" British Columbia	1,227 "
In the United States		1,881 "
		<hr/> 22,375 miles.

The outstanding securities for road and equipment in the system outlined above represent a sum of more than \$1,300,000,000.

THE TEMISKAMING AND NORTHERN ONTARIO RAILWAY.

The T. and N.O. Ry. is owned by the Province of Ontario and managed and operated by a Commission.

There are southern terminals at North Bay, where connections are made with the Grand Trunk Railway, the Canadian Pacific Railway, and Canadian National Railways (Canadian Northern), for all points south, east and west, and a northern terminal at Cochrane connecting with Canadian National Railways (National Transcontinental), the new route between the Atlantic and Pacific.

The main line extends from North Bay 253 miles north through the famous Timagami Reserve and the fertile Clay Belt of Northern Ontario, serving the important silver region of Cobalt and the rapidly settling agricultural region between Haileybury and Cochrane.

Branch lines are operated between Cobalt and Kerr Lake (3 miles), through rich silver bearing territory; between Earleton Junction and Elk Lake (29 miles), through rich clay country, and join the highway to Gowganda silver camps; Englehart and Charlton (8 miles), fertile agricultural land; Porquis Junction and Timmins (34 miles), serving the wonderful Porcupine gold mines district, with its adjacent farming country; and Porquis Junction and Iroquois Falls, where the plant of the Abitibi Power and Paper Company, one of the largest pulp and paper mills in the province, is situated in the heart of the pulpwood district of Northern Ontario.

During the first year of operation, 1905, the T. and N.O. Railway carried 86,648 passengers and 99,192 tons freight, at a gross revenue of \$253,720.55.

In 1919 the passengers were 525,714 and the freight 1,068,775 tons and the gross revenue was \$3,136,752.76. During this period 7,145,542 passengers have been carried over the lines without loss of life or serious accident.

THE ALGOMA CENTRAL AND HUDSON BAY RAILWAY

This railway, 295 miles long, operates between Sault Ste. Marie and Hearst, where it connects with the Canadian National Railways (National Transcontinental). It crosses the Canadian Pacific Railway at Franz, 195 miles north of Sault Ste. Marie, and the Canadian National Railway (Canadian Northern) at Oba, 245 miles from the same city. At these three points connections are made east and west.

The Michipicoten Division, which joins the main line at Hawk Junction, 164 miles from Sault Ste. Marie, is 38 miles in length, with ore and coal docks at Michipicoten Harbor.

The railway lands, particularly in the Clay Belt, are being settled and there are many opportunities afforded for the establishment of saw-mills along the line.

The company by its very liberal mining regulations are encouraging prospectors to go upon their lands, and it is well known that these lands are heavily mineralized.

THE MICHIGAN CENTRAL RAILWAY

This is an important line which, crossing from the United States at Niagara Falls and Fort Erie, runs southwestward for 265 miles to Windsor through the rich fruit belt of southern Ontario.

Total Mileages.

The total length of each railway or system of railways actually operating within the Province is as follows:

Grand Trunk and branches	3,079 miles.
Canadian Pacific and branches	2,987 "
Canadian National Railways and branches.	3,247 "
Temiskaming and Northern, Ontario Railway and branches	327 "
Algoma Central and Hudson Bay Railway and branches	333 "
All other systems	1,084 "

The Province leads the other Provinces in railway mileage with a total of 11,057 miles.

ELECTRIC RAILWAYS

Electric railways are in many of the cities and leading towns of the Province. Radial lines extend from the chief cities into the country, and there are also rural lines affording subsidiary transportation for passengers, light freight and farm produce. The total length is 767 miles.

WATERWAYS

Ontario has a magnificent system of inland waterways in the form of the Great Lakes and rivers, the chief of which is the River St. Lawrence, the outlet of the mighty volume into the Atlantic Ocean. From Port Arthur on Lake Superior, to tidewater on the St. Lawrence at Quebec, the distance is about 1,400 miles. This chain of waterways gives to the Province maritime advantages in cheap transportation.

Lakes

Lake	Length— miles	Average breadth— miles	Area— sq. miles	Surface above sea level—feet.	Depth of water—feet.
Superior.....	420	80	31,800	602	1,000
Huron.....	270	70	23,200	581	1,000
Michigan.....	350	60	23,000	581	700
St. Clair.....	25	25	445	576	16
Erie.....	250	38	10,000	572	200
Ontario.....	190	55	7,260	246	600

Other important lakes in the Province are: Abitibi, 356 square miles; Eagle, 127; La Croix, 23; Lake of the Woods, 1,851; Mille Lacs, 104; Muskoka, 54; Nipigon, 1,730; Nipissing, 330; Rainy, 324; Rice, 27; Sandy, 300; Scugog, 39; Seul, 392; Simcoe, 300; St. Joseph, 245; Timagami, 91; Timiskaming, 117; Trout, 300; and others.

The chief ports on the Canadian side of Lake Superior are Fort William and Port Arthur, where millions of bushels of wheat are shipped from the prairie provinces of the Northwest; on the main part of Lake Huron—Sarnia, Goderich, Kincardine, and Southampton; on Georgian Bay—Wiarton, Owen Sound, Collingwood,

Midland, Port McNicoll, Depot Harbor, Parry Sound, and Key Harbor; on Lake Erie—Rondeau, Port Stanley, Port Burwell, Port Dover, and Port Colborne; on Lake Ontario—Niagara, Port Dalhousie, Hamilton, Toronto, Whitby, Port Hope, Cobourg, Trenton, Belleville, Picton, and Kingston; and on the St. Lawrence—Brockville, Prescott, and Cornwall.

The number and tonnage of vessels for the Province of Ontario on the Dominion Register as at December 31, 1919:

—	Number	Gross Tonnage	Net Tonnage
Sailing	561	107,439	100,541
Steam	1,425	350,321	219,524



S.S. Noronic, plying the Great Lakes, Sarnia to Sault Ste. Marie, Port Arthur, Fort William, and Duluth.

Canals

The canals along the route of the Great Lakes and the St. Lawrence River between Port Arthur and Montreal are: the Sault Ste. Marie Canal, $1\frac{1}{4}$ miles long; the Welland Canal, $26\frac{3}{4}$ miles, connecting Lakes Erie and Ontario; and the St. Lawrence Canals, $45\frac{1}{2}$ miles long, making $73\frac{1}{2}$ miles in all. The complete waterway distance between these two cities is $1,223\frac{1}{2}$ miles.

Two other canal systems are: (1) the Rideau River system,

from Kingston to Ottawa, and (2) the Trent Valley system, from Lake Ontario at Trenton through the Kawartha Lakes to Georgian Bay.

The Murray Canal, 5 1-6 miles long, divides Prince Edward County from the mainland and gives a south-west entrance into the Bay of Quinte.

The Welland Ship Canal is under construction. When completed it will supersede the Welland Canal and afford 25 foot navigation instead of 14 feet as at present.

With the exception of two of the St. Lawrence River Canals, the Soulanges and Lachine, totalling 22½ miles in length, all of the above-mentioned canals are in the Province of Ontario.

Volume and Distribution of Traffic for 1918

	Tons.	Increase.	Decrease.
	Tons.		Tons.
Sault Ste. Marie	12,913,711		2,533,381
Welland	2,174,298		316,244
St. Lawrence.....	3,031,134		360,010
Chambly.....	369,186		65,632
St. Peter's	59,716		2,538
Murray	44,735		12,868
Ottawa	167,170		47,665
Rideau	54,126		30,413
Trent.....	64,893	15,969	
St. Andrew's.....	4,640		2,534
Total	18,883,619	15,969	3,371,285

Canadian and American Traffic through these Canals

Neither the Canals of Canada nor those of the United States impose tolls. Perfect reciprocity prevails in the use of these artificial waterways.

Year.	Canadian Vessels.		U.S. Vessels.		Freight Tonnage.		
	No.	Tonnage.	No.	Tonnage.	Canada.	United States.	Total.
1912.....	27,371	10,237,335	11,785	24,636,190	9,376,529	38,210,716	47,587,245
1913.....	28,654	12,078,041	10,739	24,238,788	11,130,875	40,923,058	52,053,913
1914.....	26,125	12,050,856	7,742	15,636,414	9,382,206	27,641,031	37,023,237
1915.....	21,575	9,398,207	6,415	7,385,101	6,789,423	8,409,380	15,198,803
1916.....	23,002	9,839,029	6,800	10,660,839	7,486,962	16,096,529	23,583,491
1917.....	21,588	9,821,684	6,594	10,259,772	5,964,369	16,274,566	22,238,935
1918.....	18,909	7,800,972	6,791	9,616,200	3,369,477	15,514,142	18,883,619

Canadian Wheat carried through both canals at Sault Ste. Marie

—	1915	1916	1917	1918
	Bushels	Bushels	Bushels	Bushels
Through the Canadian Canal..	48,727,911	82,807,342	60,551,243	19,987,255
Through the American Canal..	121,389,950	102,196,325	98,023,019	42,312,016
Total.....	170,117,861	185,003,667	158,574,262	62,299,271

Vessel and Freight Tonnage passed through the Sault Ste. Marie Canal

Years	Canadian Vessels		U.S. Vessels		Total No.	Vessel Tonnage	Freight Tonnage		
	No.	Tonnage	No.	Tonnage			Canadian	United States	Total
1912.....	2,643	3,296,229	5,213	22,533,015	7,856	25,832,244	4,090,362	35,579,293	39,669,655
1913.....	3,279	3,793,434	5,006	22,181,007	8,285	25,974,441	4,954,734	37,744,590	42,699,324
1914.....	3,011	3,473,292	2,966	13,827,870	6,977	17,301,162	3,609,747	23,989,437	27,599,184
1915.....	3,000	3,041,003	1,331	5,443,812	4,331	8,484,815	2,561,734	5,189,223	7,750,957
1916.....	4,595	4,089,937	2,094	8,703,187	6,689	12,793,124	4,155,911	12,657,738	16,813,649
1917.....	3,199	3,182,960	2,138	8,712,604	5,337	11,895,564	2,875,590	12,571,503	15,447,092
1918.....	3,067	2,436,500	1,992	7,594,042	5,059	10,030,542	1,336,861	11,576,850	12,913,711



Sault Ste. Marie Rail and Ore Docks
(700,000 tons of ore handled annually.)

PUBLIC WORKS

The Province in constructing and repairing roads has engaged the Highways Department, the Northern Development Branch and the Colonization Roads Branch. At the present time (1919) the mileage of roads may be stated as follows:

Provincial Highways	600 miles
Provincial County Highways	2,100 "
Other County Roads	7,500 "
Northern Development Roads	4,375 "
Colonization Roads	7,625 "
Township Roads	39,400 "
Total	61,600 "

HIGHWAYS IN SOUTHERN ONTARIO

Public highway organization in Ontario stands to-day as follows:

1. *County Road Systems.* Traffic between two or more counties and market traffic within each county is carried by the various County Road Systems, each of which may comprise Provincial County Roads, Suburban Roads not forming part of the Provincial Highway System, and ordinary County Roads. The ordinary County Road, assumed by the County Council under the Highway Improvement Act, serves as a market road from the farm to the market centre. When a considerable part of this traffic has its origin or terminus outside the county or in important neighboring towns or cities (without however justifying inclusion in the Provincial Highway System), the road may be designated as a Provincial County Road. Sections of road within the suburban areas of cities and towns not included in the county organization may be designated Suburban Roads, under the jurisdiction of Special Commissions appointed for that purpose. Towards the cost of construction and maintenance of Provincial County Roads, the Province pays 60 per cent., towards County Roads 40 per cent., the remainder being borne by the County.

Since the legislation of 1915, the number of County Road Systems in Ontario has increased from twenty to thirty-seven, and

their mileage from 3,733 miles to 9,600 miles. Provincial appropriations for County Roads have increased from \$2,000,000 to \$9,000,000. The total road mileage of the Province is approximately 61,600 miles, of which nearly 17 per cent. is improved under the County Road Systems. It was estimated by the Royal Commission of 1913-1914 that 15 per cent. of the total road mileage carried 80 per cent. of the total traffic. The policy of the Department is to encourage by Provincial aid and by technical advice the extension of these systems as far as is consistent with the economics of traffic and municipal finances and with the effective maintenance of roads already improved.

2. *Roads Under Local Municipalities.* These comprise roads and streets in cities, towns, villages and townships, and are wholly under the jurisdiction of their respective municipalities. In order to make township roads (of which about 20,000 miles are well graded earth roads) sufficiently maintained to carry traffic from the farms to the market or County Roads, the Department is encouraging the appointment of Township Road Overseers, towards whose salary the Province contributes an amount up to \$150 a year. A substantial increase of provincial assistance to Township Roads is proposed.

3. *Provincial Highway System.* This will form when completed a main highway running easterly from Windsor to the Quebec boundary, through London, Hamilton, Toronto, Kingston, with branch highways from Ottawa to Prescott, Hamilton to Queenston and with eventual extensions connecting up the main centres throughout the Province. A considerable portion of this system lies within the suburban radius of cities and large towns not included in the county organization, and the highways within such areas, but outside city or town limits, are designated Suburban Roads. Towards the cost of these the Province contributes 40 per cent., the city or town 30 per cent., and the county (or local municipality) 30 per cent. Of the intervening sections between suburban areas, the Province assumes the 30 per cent. contributed in the case of Suburban Roads by the city; so that between suburban areas the distribution is 30 per cent. by the county (or local municipality) and 70 per cent. by the Province.

Motor Vehicles in Ontario

Jurisdiction over motor traffic has, since 1915, been vested in the Department of Public Highways (Motor Vehicle Branch). All registration and license fees go to the Provincial Treasury. Thus the public highways improved and maintained by Provincial aid are indirectly financed by the owners of motor vehicles driving over them.

The following table shows the increase of motor traffic in Ontario during the last fifteen years:

Year	Number of Motor Vehicles	Revenue from Fees	Year	Number of Motor Vehicles	Revenue from Fees
1904	535	\$1,680.00	1912	16,266	\$73,255.96
1905	553	1,142.00	1913	22,875	105,558.95
1906	1,176	5,523.15	1914	31,724	149,210.45
1907	1,530	8,098.50	1915	42,346	334,759.78
1908	1,754	10,007.75	1916	53,944	639,987.09
1909	2,452	12,418.75	1917	83,790	930,753.00
1910	4,230	24,394.01	1918	109,374	1,214,093.87
1911	11,339	50,831.22	1919	139,288	1,580,146.61

NORTHERN DEVELOPMENT BRANCH

Two grants of five million dollars cash have been appropriated for Northern Ontario, which is administered by the Northern Development Branch of the Department of Lands and Forests. This is for the development of this country in general—building roads, advancing seed to settlers, loans to the amount of five hundred dollars, and for the purchase of cattle which is sold to the settlers on their notes.

The total amount spent on development since 1912 up to this year (1919) has been over seven million dollars. Expenditures for seed grain and loans appear elsewhere. At the present time there are over three thousand men working on the roads. Trunk roads are being built from Sault Ste. Marie to Sudbury and other places.

Summary of Mileage of Roads under Construction

		1912	1913	1914	1915	1916	1917	1918	Total Miles
New and old roads graded ..	Miles	39	500	405	281	177	165	264	1,831
New and old roads partly graded ..	..	..	40	214	45	323	174	187	983
New bush roads cut out ready for grading, and old roads improved .. .. .	..	194	224	89	546	183	41	284	1,561
Totals		233	764	708	872	683	380	735	4,375

Bridges large and small constructed: 1914, 40; 1915, 63; 1916, 56; 1917, 26; 1918, 53; total, 238.



Trunk Road, Sault Ste. Marie.

Trunk Roads constructed from 1912 to 31st October, 1918

District	Miles
Timiskaming	170
Nipissing	208
Sudbury	169
Algoma (Sault Ste. Marie)	102
(Hearst vicinity)	57
Thunder Bay	165
Rainy River	97
Kenora	18
Manitoulin Island	40
St. Joseph Island	10
	1,036

COLONIZATION ROADS

Each year the Colonization Roads Branch of the Department of Lands and Forests makes direct grants and by-law grants to municipalities to open up new roads and improve and repair old roads. During the year 1919 about 7,000 men were employed in opening up 112 miles of new road and improving 1,372 miles of old road, at a total expenditure of \$390,622. There are 12,000 miles of what may be termed colonization roads, including Northern Development Roads.

PUBLIC BUILDINGS AND ENGINEERING WORKS

The Ontario Public Works Department has expended since Confederation on Capital Account, to the 31st of October, 1918, in the erection of Public Buildings, Engineering Works, Colonization and Mining Roads (in Northern Ontario), Good Roads, improved Highways (in Older Ontario), and in the construction of Railways and aid in the form of subsidies to railways, the sum of \$50,772,604.28 as follows:

(1) Public Buildings.

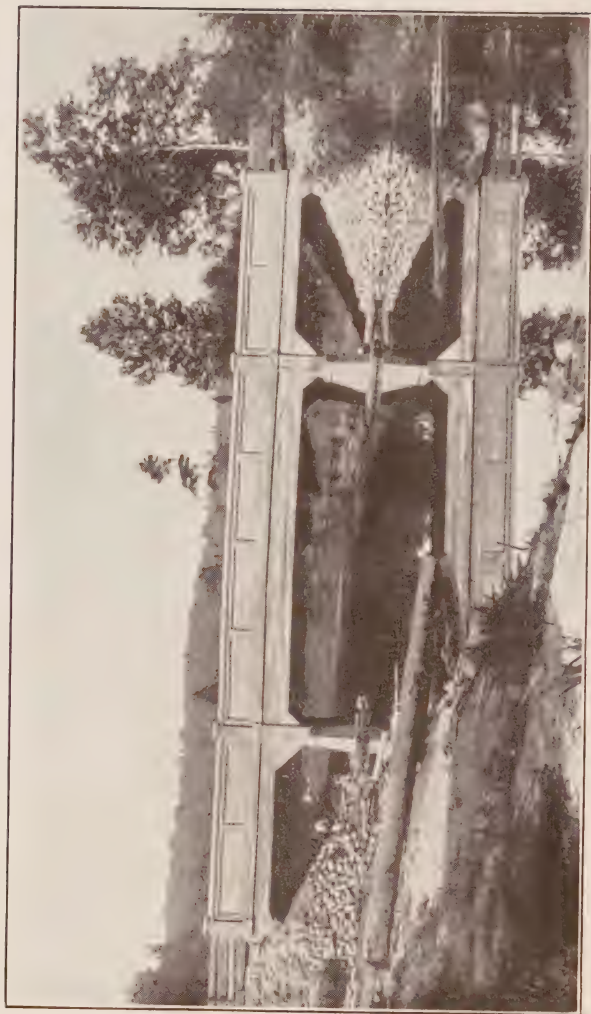
Parliament and Departmental Buildings and Government House	\$4,561,810 73	
Hospitals for Mental Diseases and Feeble-minded	9,941,200 01	
Penal Institutions	3,836,649 29	
Educational Institutions	3,188,662 66	
Agricultural Institutions	1,717,628 78	
Buildings for the Administration of Justice	1,454,853 05	
Miscellaneous expenditures	95,042 34	
		<hr/> \$24,795,846 86

(2) Public Engineering Works.

Improvement in inland navigation such as locks, dams, etc., at first for colonization purposes, but which has now developed into most attractive and lucrative tourist resorts, in the noted Muskoka Lakes.

Improvement in transportation such as roads, bridges, etc., drainage of lands and roads and in aid to municipalities in grants, advances, etc.

(3) Colonization and Mining Roads	\$3,958,895 82
(4) Good Roads Highways Improvement (now under the Department of Public Highways)	8,970,683 51
(5) Aid to Railways	3,170,887 82
	9,876,290 27



Typical Concrete Highway Bridge.

Engineer's Branch

The Department of Public Works was one of the original Departments of the Government formed at Confederation.

The work assigned to the Engineering Department comprised all engineering works apart from bridge construction, which was assumed by the Colonization Road Department. The engineering embraced inland navigation, locks, dams, canals, wharfs, etc., railway work, construction and inspection, together with the engineering features of the public institutions, comprising water systems, drainage or sewer systems and sanitation.

Extensive surveys for farm drainage were undertaken, and a far reaching system of drainage was carried out, thus bringing large areas of swamp land into use for cultivation.

Through the works for Inland Navigation the inland stretches of the Trent Canal were opened to public travel; the Muskoka Lakes were joined up and direct passage assured from Gravenhurst to Rosseau; the Magnetawan waters were rendered navigable from the Grand Trunk Railway at Burk's Falls to Ahmic Harbor, in the interior of the Parry Sound District. In recent years Dollars Lake has been harnessed and a 30-mile stretch of navigable water provided.

In 1901 the construction of all large bridges under the control of the Provincial Government was assumed by the Engineer's Branch. This work has of late years assumed large proportions. Each year from 40 to 50 large structures of steel and concrete are erected.

The other works continue to expand from year to year, the annual expenditure being about \$250,000.

MANUFACTURES

"Our belief in a brilliant future for Canadian manufactories and kindred interests is not inspired by love of country, but by business sentiment. It is founded upon material and psychological facts. We have power—a permanent and all-sufficient supply of hydraulic power, cheaper than can be derived from coal, which indeed has enriched nations, but is an exhaustible asset. We possess raw materials, of which the visible store constantly increases through exploration, while their economic value grows steadily as new discoveries are made in applied science.

Our railways have been spread over the land to the full measure, and, sometimes, in anticipation of actual requirements; the highways are being multiplied and can be fitted to serve for motor truck traffic; the waterways are widely distributed and perfectible. When normal conditions are restored, nothing can prevent our overseas transportation system from resuming its former state of efficiency and promising development.

Thus are the essentials of industrial prosperity at the command of our producers, whose only source of economic weakness lies in the comparative sparseness of our population. But its large increase may confidently be foreshadowed, because we have land and space. Any reactions in the trend of immigration have been due to outside or general causes, and fortunately have served to facilitate the so-called crucible action of assimilation.

This indeed must be thorough, and expedited by education, moral, scientific and technical, so that in our nation may be perpetuated those sterling qualities which tend to overcome the political and sociological difficulties of democracy. In these days of stress, the principle of self-government has been vindicated by us, to the effacement of conflicting interests and racial prejudice.

For all these basic reasons, we may well open our hearts to that gentle spirit of optimism, which alone, when controlled by the mind, is conducive to progress."—Lord Shaughnessy, July 1, 1918.

As a field for the profitable investment of capital, Canada has few equals and no superiors, and in no branch of her varied in-

dustrial development are the opportunities greater than in manufacturing. The factors contributing to the expansion of this market point clearly to a return and continuity of development for years to come. Before the war the population in immigration alone was increasing at the rate of over 400,000 every twelve months. Immigration will be resumed and will involve substantial additions to the output of Canadian factories. Then, there is the immense amount of construction work that is steadily going forward, such as the building of colonization roads and canals, the harnessing of waterways, the installation of waterworks, the development of transmission systems, the erection of costly buildings, and many other forms of work, all involving consumption of materials. And to meet the needs of other countries there is the supplying of such lines as minerals, lumber, pulp, paper, flour, dairy produce, live stock, vegetables, fruit, meats, fish, etc. Wealth can only be obtained from four natural sources, mineral, agricultural, timber, and fish. In these, duly utilized by labour, the confidence of Canadians is abundantly guaranteed and the outlet for manufactures amply assured.

Ontario is the chief manufacturing Province of the Dominion. It has about half the factories of all Canada, and produces almost every kind of manufactured article. All the western towns and cities, with nearly all the villages, and all the eastern cities and large towns are engaged in some kind of manufacturing. There are over 15,000 factories, mines and places of construction in the Province, which give employment to 375,000 workmen and which have an annual payroll of \$285,000,000. The capital invested in manufactures exceeds \$1,336,000,000, and the value of the annual output is \$1,535,000,000. The imports and exports, domestic and foreign, of the Province during the fiscal year ended March 31, 1919, were as follows: Imports, dutiable, \$260,104,416; free, \$210,546,263; total, \$470,650,679. Exports, domestic, \$284,485,050; foreign, \$13,825,428; total, \$298,270,478.

The following table, supplied by the Dominion Statistician, indicates the industrial standing and progress of Ontario in relation to the other Provinces, and to Canada as a whole, 1915 and 1917:

Provinces.	Establish- ments.	Capital.	Employees.	Salaries and wages.	Value of Products.
1915	No.	\$	No.	\$	\$
Canada.....	21,306	1,994,103,272	514,883	289,764,503	1,407,137,140
Alberta.....	584	42,239,693	7,563	5,117,123	30,592,833
British Columbia.....	1,007	158,636,983	28,853	15,887,745	73,624,431
Manitoba.....	840	95,845,845	19,886	136,662,797	61,594,184
New Brunswick.....	714	46,290,014	17,701	8,857,333	37,832,034
Nova Scotia.....	968	126,539,183	33,757	16,351,380	70,860,756
Ontario.....	9,287	956,883,423	247,779	144,963,716	727,923,274
P. E. Island.....	291	1,906,564	2,356	558,422	2,646,469
Quebec.....	7,158	548,972,575	153,308	81,655,476	387,900,585
Saskatchewan.....	457	16,788,992	3,680	2,710,511	14,162,574
1917					
Canada.....	34,392	2,786,649,727	692,067	553,301,675	3,015,577,940
Alberta.....	1,317	63,215,444	11,761	10,447,891	71,669,423
British Columbia.....	1,772	221,436,100	44,961	39,070,798	171,425,616
Manitoba.....	1,329	101,145,033	22,737	19,620,025	122,804,881
New Brunswick.....	1,423	65,539,370	21,656	13,936,527	62,417,466
Nova Scotia.....	2,147	136,521,655	31,622	23,596,572	176,369,025
Ontario.....	14,381	1,335,968,699	334,418	279,528,018	1,533,738,655
P. E. Island.....	534	2,652,374	1,969	842,754	5,517,910
Quebec.....	10,042	823,317,251	214,536	159,116,749	830,614,029
Saskatchewan.....	1,436	33,114,630	8,336	7,023,540	40,657,746
Yukon.....	11	3,739,171	71	118,801	363,189

The next table, from the same source, shows the progress of Ontario's manufacturing industries in cities and towns with a population (1911) of 10,000 and over, 1915 and 1917.

Municipal Cities and Towns.	Population 1911.	Value of Products.	
		1915.	1917.
		\$	\$
Toronto.....	376,538	219,143,728	456,250,198
Ottawa.....	87,801	18,947,325	34,671,203
Hamilton.....	81,969	66,063,339	163,506,406
London.....	46,300	18,885,212	34,615,211
Brantford.....	23,132	13,728,811	29,111,499
Kingston.....	18,874	4,872,796	11,191,954
Peterborough.....	18,360	12,736,297	21,994,351
Windsor.....	17,829	6,125,080	10,441,736
Fort William.....	16,419	4,348,492	14,695,208
Kitchener.....	15,196	16,408,401	30,171,284
Guelph.....	15,175	8,900,290	12,391,917
St. Thomas.....	14,054	3,467,947	7,977,954
Stratford.....	12,946	6,016,963	8,429,843
Owen Sound.....	12,558	2,504,384	5,059,971
St. Catharines.....	12,484	7,146,778	26,455,023
Port Arthur.....	11,220	1,180,345	5,657,277
Sault Ste. Marie.....	10,984	9,800,079	34,745,238
Chatham.....	10,770	1,743,535	4,679,957
Galt.....	10,299	8,853,635	13,710,934

A Prime Factor in Trade

One of the prime factors contributing to Ontario's pre-eminence in the manufacturing field is the richness and variety of its endowment in natural resources and the splendid use to which it has put these resources in promoting its own development. The only real handicap has been a lack of coal which had to be imported from the United States under a duty of 53c. per ton for bituminous, with 14c. for slack. Through the enterprise of the Provincial Government, however, this problem has now been solved in a manner that bids fair to place the Province almost beyond the reach of competition; for by means of a system of transmission lines, under the management of a Commission, electrical energy from the Falls of Niagara and other suitable water powers, energy is being distributed to municipalities at prices heretofore unknown in Ontario. Although it is only nine years since the Commission has been in a position to deliver power, it is already serving about 230 municipalities and townships with over 300,000 horse power, and the business is increasing.

The availability of cheap power in units of any size has acted as a tremendous stimulus to all kinds of industrial activity, and has given special encouragement to the manufacturer of limited means. This fact, combined with other natural advantages already referred to, accounts in a large measure for the diversity of Ontario's factory products. With the exception of a few highly specialized lines, every kind of article that is made elsewhere in Canada is made also in Ontario, while certain trades seem to be scarcely known in Canada outside of Ontario.

A few brief comments on the classes of manufacturing that stand out most prominently in the industrial life of the Province may prove of interest.

Iron and Steel

Furnaces for the production of pig iron, using both Canadian and imported ores, are operating at Sault Ste. Marie, Hamilton, Parry Sound, Port Colborne, and Midland. At the first two of these places and at Welland, the further process of converting into steel is carried on. Toronto, Belleville, and St. Catharines have furnaces for converting ore into steel castings.

For a number of years the production of iron and steel from Canadian ores was subsidized by the Dominion Government, but since 1911 no bounties have been paid. The Canadian Steel Corporation are completing the erection of a \$20,000,000 steel plant at Ojibway, near Windsor, and a large English firm have recently taken over the largest munitions plant in Canada for the manufacture of sheet iron, tin plate and merchant steel.

Foundry Products

There is an important business in grey and malleable castings, steel castings, and car wheels, pipe, as well as brass goods and babbit.

Heating Apparatus

Stoves and heating apparatus form another big line that is manufactured in all parts of the Province. From the small gas or the electric cooker to the largest hotel range, and from the old style box stove to the modern furnace with hot water or with steam radiators, Ontario manufactures all.

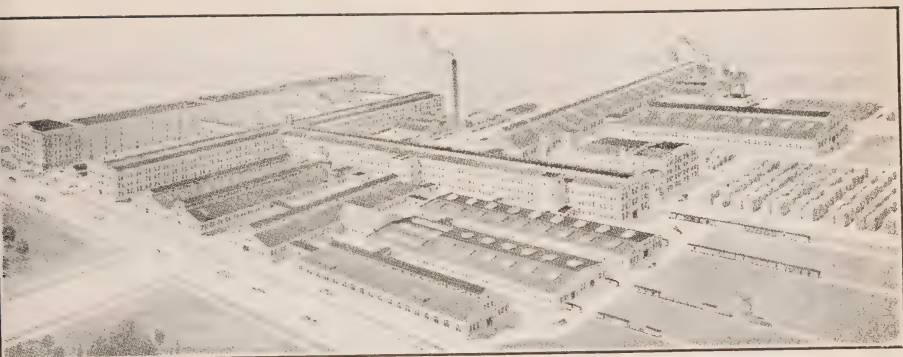
Agricultural Implements

In agricultural implements, Ontario factories have 82 per cent of the production for the entire Dominion. Toronto, Hamilton, Brantford, Smith's Falls, London, Goderich, St. Mary's, St. Catharines, Waterloo, and Stratford are the principal centres of this industry, which includes in its varied output ploughs, tractors, harrows, drills, cultivators, mowers, rakes, reapers, binders, threshers, fanning mills, and in short everything that a well-equipped Canadian farm requires.

The growth of this business has been particularly rapid, due in part to the enormous increase in the demand for implements from the Canadian West, but perhaps even more so to the success which manufacturers here have met with in marketing their product abroad.

Carriages and Waggon

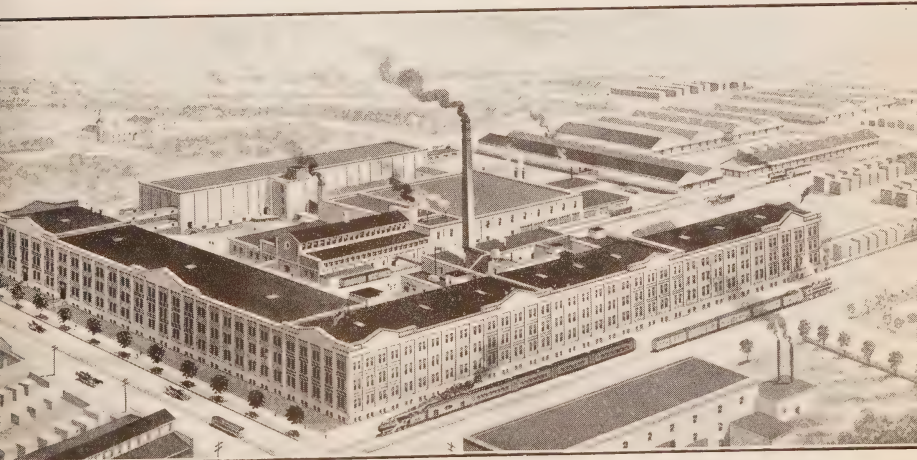
Carriage and waggon building forms an allied line that runs into very large figures as regards pay-roll and output. Unlike the implement trade, however, the tendency to centralize in a few large



Plow Works, Brantford.



Agricultural Implements Factory, Toronto.



Waggon Works, Woodstock.

establishments is not so apparent, and thriving industries are to be found all the way from Alexandria in the east to Chatham in the west, and Port Arthur in the north. Ontario has some of the largest carriage manufactories in the British Empire.

Motor Vehicles

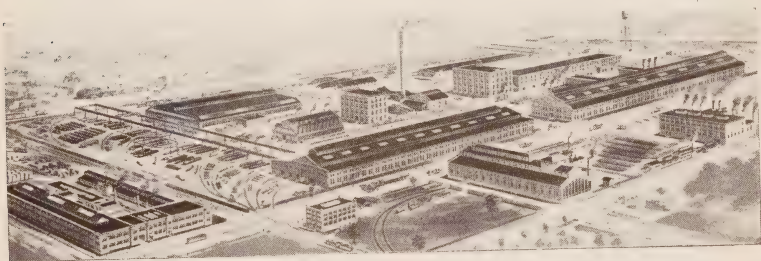
The motor car business is one that has attained tremendous proportions in a comparatively short time. In 1900 there was no such thing as a Canadian built motor car; in 1910 Canada turned out over \$6,000,000 worth of motor cars, and in 1919 approximately \$80,000,000, all of them in Ontario. A few plants still do little more than assemble parts that are imported from the United States; others manufacture practically the entire car. The value of tires manufactured in the Province in 1919 was about \$30,000,000. There were 139,288 motor vehicles out of a total of 336,854 for the Dominion.



Motor Factory, Oshawa.

The Engineering Industry

In all branches of the engineering trades, Ontario is well to the front, her equipment enabling her to turn out locomotives, traction engines, marine and stationary engines and boilers, motors, dynamos and other electrical apparatus, mining, milling and woodworking machinery, machine tools, etc., all comparable with the best that the world produces. The electrical works in Peterboro and Hamilton are the largest of their kind in Canada. Kingston and Toronto are the centres for locomotive building, while for the manufacture of machinery and machine tools places like Dundas, Galt, Brantford, Preston, Hespeler, Kitchener, and Walkerville have attained considerable prominence. Steel ship-building is becoming an important industry in Collingwood, Port Arthur, Fort William, Kingston,



Engineering Works, Toronto.

Welland, Bridgeburg, and Toronto. Steel railway cars are produced at Ottawa, Hamilton, and Port Arthur, and wooden cars at Preston and Hamilton.

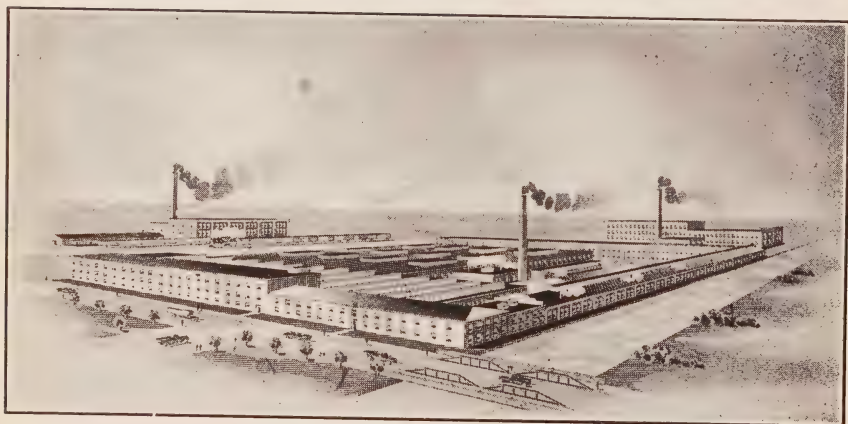
Mining

Within the last few years smelters for the purification of ore have been erected at Copper Cliff, Deloro, Cobalt, Thorold and Port Colborne.

The industries connected with mining are fast developing, such as the manufacture of artificial graphite, artificial abrasives, calcium carbide, cyanamid, ferro-silicon, ferro-manganese, and ferro-molybdenum products. An important industrial group embraces quarry products, such as lime, potash, cut stone, corundum, etc.



Piano and Organ Factories, Guelph.



Carpet and Worsted Spinning Works, Guelph.

Pulp and Paper

The enormous areas of spruce and balsam in Northern Ontario interspersed as they are with navigable rivers and frequent water powers constitute the basis of a pulp and paper industry that is steadily growing in importance. Every year witnesses some addition to the producing capacity of Ontario's numerous plants which, in addition to pulp, board and news paper, are making a varied line of high class book, wall and coated papers. An increasingly large percentage of the former product is finding a market in the United States.

Furniture

Lumbering is, of course, one of the great basic industries, but Ontario has not stopped there, for in the further manufacture of wood into articles of commerce the Province has made rapid strides. In church, school, office and household furniture it is practically supreme so far as the Canadian market is concerned. A large contribution to furniture production is given by the Counties of Waterloo, Grey, Bruce, York, and Ontario. In the cheaper lines, as well as in office and bentwood furniture, Ontario does a large export business.

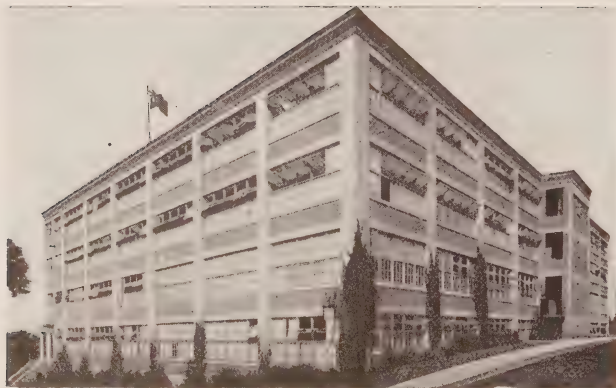
Pianos and Gramophones

Pianos are another product of which the Province is justly proud, and in which it predominates. Quality rather than quantity seems to have been the aim of the manufacturers in this line, and there are at least six makes of upright pianos that have fully as high an average in finish and in tonal effect as anything on the continent. There is an immense demand for pianos manufactured in the Province. The gramophone industry has made extraordinary strides during the last five years.

It is estimated that phonographs, cabinets and records manufactured in Toronto during 1919 amounted to \$3,500,000, and in the whole province to double that figure.

Textiles

The knitting industry has been particularly progressive. There are factories in Campbellford, Chatham, Dunnville, Galt, Hamilton, Kingston, London, Paris, Renfrew, St. Catharines, St. Thomas,



Factory for shirts, collars, etc., Kitchener.



Tire and Rubber Works, Toronto.

Stratford, Toronto, and Woodstock, as well as smaller mills scattered throughout the whole province, some of them models of their kind. Carpets of excellent quality are made in Guelph, Hamilton, Toronto and Peterboro. In cottons, Ontario has six large factories, located in Hamilton, Welland, Kingston and Cornwall. The linen industry is in its infancy in Ontario, but gives promise of a very important development in the near future. Linen is now manufactured from imported yarns at Bracebridge, Tilsonburg, and Iroquois, while a London textile company is planning to weave linens in the near future. At Guelph a large spinning plant has been established in connection with the largest Ontario linen manufacturing company, and it is planned to produce there from home-grown flaxes all the yarns required, except those of highest quality. These latter will be imported from Ireland as in the past.

“There is an almost universal demand for textiles. Even where there is no scarcity of raw materials the reduced hours of labour in British industries have tended to reduce production. This has made it possible for Canadian manufacturers to ship knitted goods to Europe at lower prices than products of similar or poorer quality can be made there. The knit goods industry is enjoying active conditions; there is a healthy demand for Canadian consumption, and there are several export markets that can take whatever surplus the mills of this country can supply.”

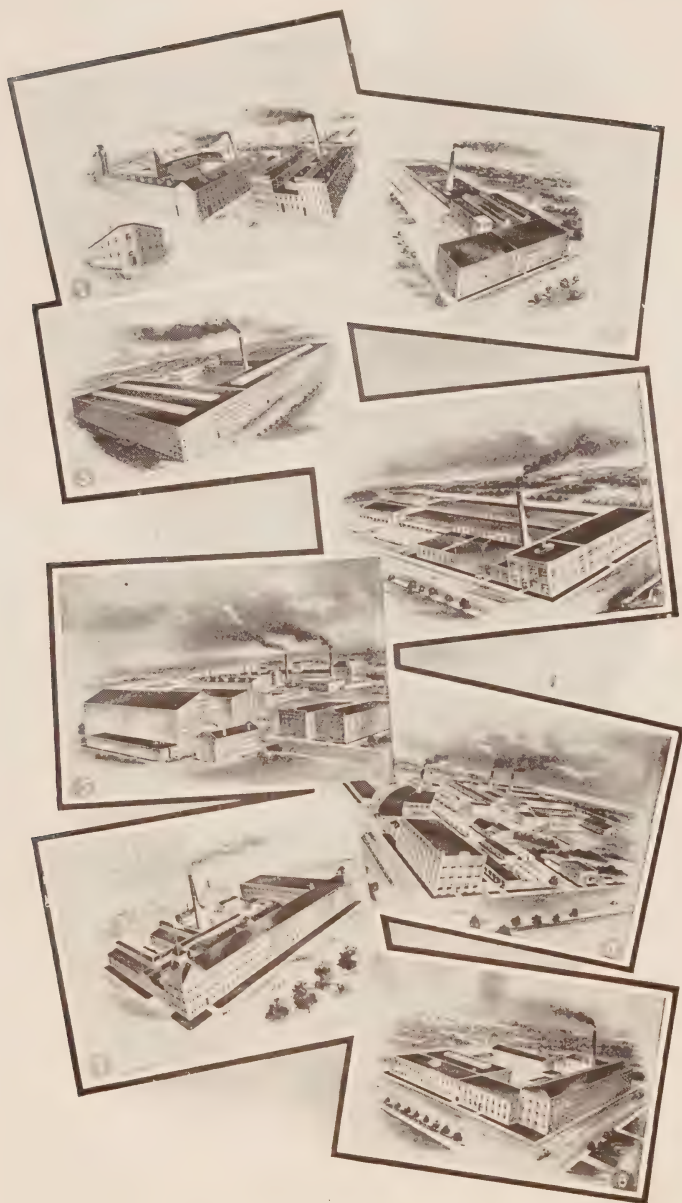
Leather and Rubber

The leather industries constitute another important group, all departments of which are well represented in the Province, including tanning, boot and shoe making, harness making, belting, and general leather goods. The output of tanned, curried and finished leather and of boots and shoes for the year 1919 amounted to several million dollars. The rubber industry, comprising tires, hose, belting, shoes, coats, and general rubber goods, is gigantic, involving many millions of dollars in plant and machinery, and employing thousands of hands. In this industry the Province leads and does a great export trade.

Foodstuffs

In the matter of foodstuffs, Ontario's equipment is varied and highly specialized. The Province operates scores of flour and cereal mills, one flour mill having a daily capacity of 9,000 barrels and another of 12,000. Bakeries, biscuit factories and factories for the making of breakfast foods are in evidence everywhere and carry the manufacturing process along to a more advanced stage. Another group of industries turn out a wide assortment of canned, preserved and evaporated fruits and vegetables, with pickles and flavoring extracts as important side lines. In still another group are the huge abattoirs, whose packing house products are exported in large quantities to the United States and the continent of Europe. Cheese from Ontario dairies is virtually standard the world over. Condensed milk and powdered milk are rapidly developing and assuming a large place in export trade. There are three beet sugar factories in the Province. The confectionery trade has advanced to a stage that enables it to do an export business.

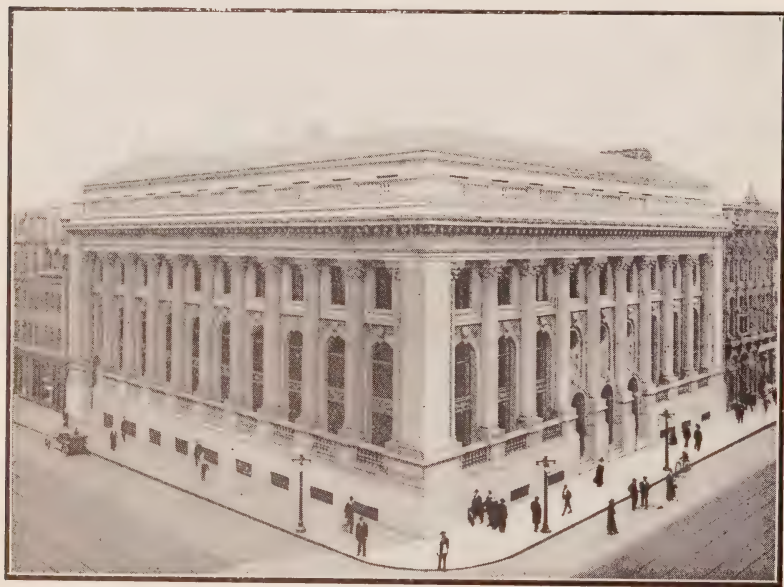
Other manufactures which have attained prominence are aerated waters, aluminums, bedding, brick, cement, chinaware, clothing, cooperage, cordage, cutlery, bolts, door locks, drugs and chemicals, dyes, electric lamps and bulbs, furs, glass, hardware, jewellery, margarine, nails, nuts, organs, paints and varnishes, phonograph records, silverware, soap, structural steel, tile-pipe, tobacco, wall papers, watch cases, wire and wire fencing.



Some of Hamilton's Factories.

BANKING

The Canadian banking system provides the Province with the best of facilities for the transaction of business. All the banks are chartered by the Dominion Government, so that instead of having numerous small banks distributed throughout the country, each of which is dependent on the prosperity of its own locality for stability and strength, under the Canadian system the banking institutions are permitted to operate from their head offices, located in the



Bank of Toronto, Toronto.

largest commercial centres, any number of branches which the management and directors deem necessary to serve the interests of the country and the bank. There are 18 chartered banks doing business in Canada, all of which, with few exceptions, have branches in Ontario, and probably every town or village of 600 people is supplied with one bank, sometimes two or more. Out of a total of 4,481 branches of chartered banks in Canada 1,431 are in this Province. Seven chartered banks have their head offices in Toronto,

where there are over 209 branch banks and where nearly every bank in Canada is represented. That the Canadian banks are as strong as any in the world will be seen from the following statement, as at December 31st, 1919:—

Total paid up capital	\$119,199,441
Total reserves	124,712,670
Total public deposits in Canada	1,841,478,895
Total assets	2,967,373,675

Note holders and depositors are secured by the large capital and reserve of each bank, and by the liability of each shareholder for double the par value of shares owned.



Canadian Bank of Commerce, Toronto.

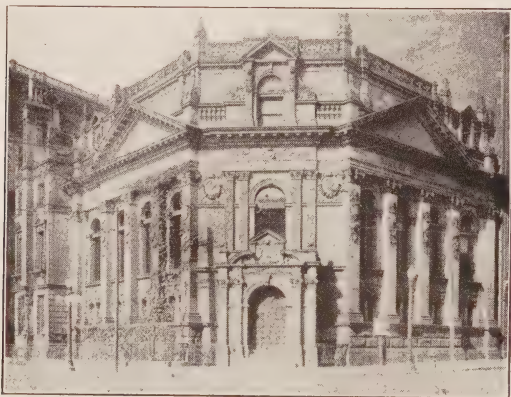
Currency

The decimal system of currency is used, the unit of value being the cent, one hundred of which make a dollar.

The Canadian branch of the Royal mint produces gold, silver and copper coins. The gold coins are minted in 5 and 10 dollar pieces. The English sovereign and half sovereign and the United States $2\frac{1}{2}$, 5, 10, and 20 dollar gold pieces are also current. The silver coins are minted in denominations of 5, 10, 25, and 50 cents, which correspond practically to the British threepenny, sixpenny, shilling, and two shilling pieces respectively. There is only one copper coin, the one cent piece, about equal to a halfpenny.

The change-making notes, that is, the one, two, and five dollar bills, are issued by the Dominion Government. Chartered banks also issue denominations of \$5 as well as multiples thereof. The following notes are in general use:—

		Value in Sterling money at the Par of Exchange (9½% premium.)		
		£	s.	d.
One dollar	\$1.00.....		4	1½
Two dollars	2.00.....		8	2¾
Five “	5.00.....	1	0	6½
Ten “	10.00.....	2	1	1¼
Twenty “	20.00.....	4	2	2½



Bank of Montreal, Toronto.

The approximate value of British coins in Canadian currency at the par of exchange (9½ premium or 4.86) is as follows:—

£1	\$4 86
10 shillings	2 43
1 Crown	1 21
1 Florin	48
1 Shilling	24

If the immigrant will keep in mind that one pound sterling is nearly the same value as five dollars (\$5), and one shilling about the same as a quarter (25 cents), he will get at Canadian money values quickly, although the difference of 14 cents between the £ and the \$5 must not be lost sight of.

EDUCATION

The standard of education in the Province is high. There is no class bar to advancement in any walk of life, whether professional, commercial or industrial, the sons and daughters of the less wealthy having equal privileges and advantages with the children of the rich. The aim is to train all the people for useful and enlightened citizenship. There is democratic control, the people electing from among themselves the trustees to manage school affairs.

The work of education, elementary and secondary, is under the supervision of the Provincial Department of Education in charge of a Cabinet Minister.

The whole scheme of education includes the public school, the secondary school—high and continuation—and the university. Day and night industrial, technical, and art schools have also been established in many urban centres, as specialized secondary schools.

The law requires every child to have an elementary education up to the age of fourteen, and the latest enactment is designed to increase this age to sixteen under certain conditions. The elementary schools are free, and attendance is compulsory, while secondary schools, either free or with nominal fees, are to be found at over three hundred places, rural and urban, and usually close to the homes of the people. The child may advance to the secondary school and so on to the university. There is thus a complete system of education, while special attention is devoted to technical, industrial, commercial and agricultural instruction. Even in the newly settled portions of the Province the net-work of schools prevails, and rapid development goes hand in hand with a helpful policy so that no settler, however remote from the centres of population, need see his children grow up in ignorance. Provision is made whereby school sections may be united under the Consolidated Schools Act.

The schools are non-sectarian, but the Roman Catholics have a constitutional right, if they desire to exercise it, to have schools of

their own, where religion is taught, but where the secular subjects are regulated by the same provisions as govern the State schools.

The teachers are a splendidly qualified body of men and women. The Province sets great store by its professional schools of training. There is a pension fund for the old or disabled teacher.

The State is generous to education. For the current year (1919) the Legislature has voted over four millions of dollars for the schools and colleges. The people are encouraged to supplement the State grants and they do so liberally.

The war having entailed new obligations, the policy of Ontario on reconstruction must be considered in large measure from the standpoint of education. The basis of reconstruction is the conservation and development of our human resources. All plans for commerce, industry, agriculture—all plans for the general utilization of our material wealth, depend upon the intelligence and character of the people. Reconstruction is thus inextricably bound up with the broad subject of education. The importance of education has received fresh illustration from the world cataclysm of war. Mankind have seen on a colossal scale the power of education over the souls and minds of men. It has been able to poison the springs of national life, to change and degrade national ideals, to minister to a monstrous vanity and egotism. Education, applied with persistence and pedantic pertinacity, is the most formidable instrument in the modern world for the control of conduct and the moulding of purpose. What is accepted as one of the aims of the war is the making of the world safe for democracy. This on the whole is the noblest and safest form of government. But it must be equally realized that if the world is to be safe *under* democracy, then democracy must be intelligent. Of all forms of government, democracy can least afford to neglect universal and complete education.

The number of public schools in 1918 was 6,136; pupils enrolled, 457,615; average daily attendance, 261,164. Roman Catholic separate schools, 559; pupils enrolled, 71,302; average daily attendance, 40,536. Protestant separate schools, 6 (included in public schools); pupils enrolled, 437; average daily attendance, 264. Night public schools, 1918-19, 13; pupils enrolled, 671; average attendance, 269. Night high schools, 25; pupils enrolled, 4,485; average



Public Library, Victoria University, and Public Schools, Toronto.

attendance, 1,762. Continuation schools in 1918-19, 136; pupils enrolled, 5,006; average attendance, 3,773. High schools in 1918-19 (including 47 collegiate institutes), 164; pupils enrolled, 30,732; average daily attendance, 24,500. Day industrial, technical and art schools in 1918-19, 11; pupils enrolled, 4,739; average daily attendance, 2,534. Night industrial, technical and art schools, 36; pupils enrolled, 16,733; average daily attendance, 9,000 (approximate). Total enrolment; 591,283. The total estimated population of the province in 1918, 2,678,500, and the percentage enrolled, 22. The number of teachers in all schools, 14,422; inspectors, 116. The average cost per pupil, enrolled attendance, \$31.43. The total amount expended on public schools in 1918, \$13,707,165; R.C. separate schools, \$1,469,558; high schools, \$2,586,114; continuation schools, \$332,853; industrial, technical and art schools, \$493,200.

There are Normal schools in Toronto, Ottawa, London, Hamilton, Peterborough, Stratford and North Bay. They have been increased from 3 to 7 to meet the demand for well qualified teachers for the public schools.

The faculties of education at the University of Toronto, and Queen's University, Kingston, train teachers for the high schools and first-class teachers for the public schools.

AGRICULTURE AND HORTICULTURE IN THE SCHOOLS

Agricultural education is accomplishing something in the direction of improvement in the matter of increased interest and enjoyment of the school programme and, to some extent, in beautifying the grounds and buildings, but much remains to be done. It has also a tendency to increase the interest of the farmers in their schools.

Money spent in the encouragement of the teaching of Agriculture in the rural schools is money wisely spent since it promotes not only the development of Agriculture and the consequent enrichment of the country, but it also encourages a keener appreciation of farm life. Through the school gardens and home projects of schools conducting classes in Agriculture there was produced in 1918 an amount estimated from the reports of teachers and Boards at \$120,000.

AGRICULTURE AND HORTICULTURE IN SCHOOLS 187

The Public and Separate Schools qualifying for grants since 1914 are given in the following table:

Year.	No. of Schools.	With School Gardens.	With Home Gardens.
1914	264	208	56
1915	407	222	185
1916	585	324	261
1917	989	466	523
1918	1,020	588	432
1919	1,500	640	860



In the Daisy Field.

There is no institution upon which the war situation has so great an influence as that of the rural school; and rightly so, the children of the rural schools are truly Canadian, many of them with two or three generations of Canadian ancestors, and these ancestors are very largely from the British Isles. In the cities—the larger cities particularly—foreigners from other European countries are rapidly becoming an important part of the school population; not so in the case of the country schools. And there

is nothing surer than that rural boys and girls will become leaders in the Province in the next generation. It will be largely these boys and girls who will shape the destiny of Canada.

For the city and town dwellers, also, these school gardens are recommended and encouraged by liberal grants. The lessons learned in the cultivation of these gardens should be an incentive to a livelier community—an interest between urban and rural localities so necessary for the good of all in a Province like Ontario, where the total value of the agricultural production amounted to more than five hundred millions of dollars in 1918.

All of the seven Normal Schools, where the great majority of our teachers are trained, have courses in agriculture and horticulture, and large areas devoted to school gardens. Plant laboratories are being erected this year (1919) in connection with each of these Normal Schools in order to further facilitate the teaching of this subject.

Teachers of both primary and secondary schools, and inspectors of the primary schools, take summer courses at the Agricultural College, Guelph, in order to qualify themselves to teach this important subject. In 1919 the attendance at these courses reached the total of 489.

A manual of Elementary Agriculture and Horticulture for the use of teachers has been published by the Department of Education, and has received warm appreciation from authorities both in Canada and in the United States. Copies for teachers may be had for twenty-nine cents each, and free copies of courses of study and regulations and any information desired in connection therewith may be obtained on application to the Deputy Minister of Education, Toronto.

UNIVERSITIES AND COLLEGES

The province has several excellent universities, the principal one being the University of Toronto, which was founded in 1827, and is supported by provincial funds. It has assets of over \$7,000,000, and an income (including Government aid) of over \$1,000,000. It is undenominational. The *number of students enrolled in the session of 1918-19 was slightly over 3,000, but prior

* Number enrolled in 1919-20 (including Social Service, 435), 4,675.



University of Toronto.

to the outbreak of the war its students exceeded 4,000, and with the return to normal conditions this number will again be reached. A large proportion is drawn from the intelligent agricultural population of the province. The words used by the *Globe* a few years ago are true to-day :

"It is the people's chief educational institution. It is the main source of those streams of scientific knowledge and intellectual culture which flow through the secondary and primary schools, and enrich and vitalize the life of the province. No one who knows the University and its work is called on to make apology for it. It stands in the front rank not only in America but in the British Empire. Its graduates are among the foremost scholars and workers in every centre of culture and research, and professional service. Its professoriate, man for man, in ability and teaching power and personal influence easily measure up to the best standards of the greatest universities. Never in the past was the university as vital as now. Never did its professors and students count for so much in the life of Canada."

Sir Robert A. Falconer, President of the University of Toronto, writes: Since the last issue of this book the war has suddenly fallen upon us, its terrible exactions have been met and faced, and our cause has been triumphantly vindicated. It affected the University profoundly. The call of duty stirred the souls of our generous youth to their depths, and at once the classrooms began to empty. Some faculties soon lost nearly all their available men; the teaching staff was quickly reduced in numbers; buildings were placed at the disposal of the authorities for all kinds of war work; the grounds were worn bare with drilling, and in the later years of the war in the University the headquarters of the Royal Air Force were established; in our laboratories all the tetanus anti-toxin used in the Canadian Army was manufactured, and one of the finest hospitals (No. 4 Canadian General) in the Canadian forces was equipped by the University and manned by our medical staff and did distinguished service in Salonika and in England. Altogether more than 6,000 graduates and undergraduates of the University (of whom some 120 were on the teaching staff) enlisted, and of these over 600 have fallen. Nowhere were the issues involved in the war more earnestly set forth than in the University, nor more clearly grasped; nowhere was there a nobler response made. Those five years have been the greatest in the history of the University, abiding heroic traditions have been created; the quality of the character of the students and staff was severely tested, and our education has been proved to be such as to produce fine citizens.

Now that the war is over, education will receive a marked impetus. During the next few years the University will be thronged with young men and women. Even during the academic session 1918-19, after the armistice, the numbers began to increase rapidly, special arrangements being made for the instruction of the returning soldiers. In all there were 3,300 students in attendance as compared with about 4,400 in the year before the war. All signs indicate that very shortly there will be a larger attendance than ever before, and the University will probably continue to be the largest English-speaking university in the British Empire.

Two great benefactions have been made in the last few years for the development of medicine. The first is the gift of the Connaught Laboratories and farm of 58 acres by Colonel A. E. Gooderham for the manufacture of sera, anti-toxins and vaccines for tetanus, meningitis, rabies, smallpox and other diseases, and for the investigation of preventive medicine. By

reason of the University supplying these remedies at the lowest possible cost, the Government of Ontario has been able to distribute them free throughout the Province, thereby conferring an inestimable boon upon the people. The second gift is that of \$500,000, made by Sir John and Lady Eaton, for the development of the department of medicine. By means of this magnificent donation the faculty of medicine will be given a pre-eminent position on this continent.

Another unique benefaction is the gift of the Hart House by the Massey Estate. This beautiful structure has been erected to house all the social and athletic activities of the men students, and will become a centre for their education in social intercourse, debate and varying physical and intellectual exercise. It is to be hoped that before long some far-seeing benefactor will make possible similar opportunities for the women of the University.

Within the last few years a new department of Social Service has been established for the purpose of training workers in the manifold duties that have recently been demanding attention in the community. The establishment of this department has at once proved that it has met a great need, as the attendance has for the last two years averaged over 200 each year.

The University is a great training-ground for democracy. Men and women come to it from every grade of society, from every section of the province and from beyond its borders. The fees are low and education is placed as far as possible within the reach of all; so here are to be found those who have the aptitude and desire to excel in things of the mind and spirit, in pure and applied science, the humanities, and the professions. Here are trained those who should prove citizens of high character, and many of them trustworthy leaders of the people.

The London *Daily Mail*, England, says:

"In the mass Canadian university men appear to be better educated than English university men, because their education is more closely in touch with life. They have almost always more desire to learn and a more vivid interest in life. They are more in earnest about it."

University College is the complement of the University of Toronto in the Faculty of Arts. Federated with the University of Toronto as Arts Collèges are Victoria University (Methodist), the University of Trinity College (Anglican), and St. Michael's College (Roman Catholic). Knox College and Wycliffe College are also federated Institutions.

Affiliated with the University are Albert College (Belleville), the Ontario Agricultural College (Guelph), the Royal College of Dental Surgeons, the Ontario College of Pharmacy and the Ontario Veterinary College.

Besides the University of Toronto, the other undenominational Universities are Queen's University, Kingston, and Western University, London.

The denominational Universities are: Ottawa University (Roman Catholic), Ottawa, and McMaster University (Baptist), Toronto.

Other colleges are: Toronto College of Music, affiliated with the Canadian Academy of Music; Toronto Conservatory of Music; Hamilton Conservatory of Music; London Conservatory of Music; Ontario College of Art, Upper Canada College, St. Andrew's College, Toronto; Ridley College, St. Catharines; St. Jerome's College, Kitchener; Ashbury College, Ottawa; Huron College, London; Toronto Bible College; Alma College, St. Thomas; Havergal College, St. Margaret's College, St. Hilda's College, Toronto; Woodstock College; Waterloo College; Assumption College, Sandwich; Moulton College, Toronto; and there are such schools as: Trinity College School, Port Hope; St. Michael's College School, Toronto; St. Alban's, Brockville; Lakefield Preparatory School, Lakefield; Highfield School, Hamilton; Appleby School, Oakville; Bishop Strachan School, Toronto; Branksome Hall, Toronto; School for Higher English and Applied Arts, Ottawa; Ontario School for the Blind, Brantford; Canadian National Institute for the Blind, Toronto; Ontario School for the Deaf, Belleville; Eastern Dairy School, Kingston; Ontario Agricultural College Dairy School, Guelph, and others.

ONTARIO ARCHIVES

(1) The Bureau is equally related and attached to all the Government Departments, and shall receive papers and documents of historical interest, not in current use, from all branches of the Public Service. When possible these documents shall be classified and calendared.

The Bureau devotes attention to:

(2) The copying and printing of important Ontario records lying in the Canadian Archives at Ottawa, in the State Departments there and elsewhere.

(3) The collection of documents having, in the widest sense, a bearing upon the political or social history of Ontario, and upon its agricultural, industrial, commercial, and financial development.

(4) The collection of municipal, school, and church records.

(5) The collection and preservation of pamphlets, maps, charts, manuscripts, papers, regimental muster rolls, etc., bearing on the past or present history of Ontario.

(6) The collection and preservation of facts illustrative of the

early settlements of Ontario—pioneer experience, customs, mode of living, prices, wages, boundaries, areas cultivated, homes, etc.

(7) The collection and preservation of correspondence—letters from and to settlers, documents in private hands pertaining to public and social affairs, etc., reports of local events and historic incidents in the family or public life.

(8) The rescuing from oblivion of the memory of the pioneer settlers, to obtain and preserve narratives of their early exploits, and of the part they took in opening up the country for occupation.

(9) Co-operation with the Historical Societies of Ontario and societies kindred to them, to help to consolidate and classify their work, and as far as practicable direct local effort on given lines.

PUBLIC LIBRARIES

In proportion to its population Ontario has the largest number of public libraries of any country, state, or province in the world. We have 417 of these popular educational institutions, and an excellent system of travelling libraries that is maintained by the Department of Education. The great majority of the libraries are in rural districts and villages. Nearly every town has a library, and every city has one; the larger cities have branch libraries. The sparsely settled parts of the province are served by the governmental travelling libraries.

The Department of Education pays grants amounting to about \$30,000 annually to public libraries, maintains a training school for librarians, issues a quarterly periodical and book-selection guide, conducts library institutes, sends visitors to advise library boards and librarians, and gives travelling library service. About \$50,000 is expended annually in the interest of libraries.

It is estimated that more than 6,000,000 books were borrowed from Ontario public libraries during 1919.

Government Expenditure on Education

Total grants for all public, high, continuation, separate, technical and industrial school purposes, for the year ended 31st of October, 1919 (Dept. of Education)	\$2,894,606 66
Total grants for Universities	907,881 25
Total grants for agricultural education (Dept. of Agriculture)	1,101,065 16
Grand total expended by the Provincial Government for educational purposes, including the above	4,903,553 07



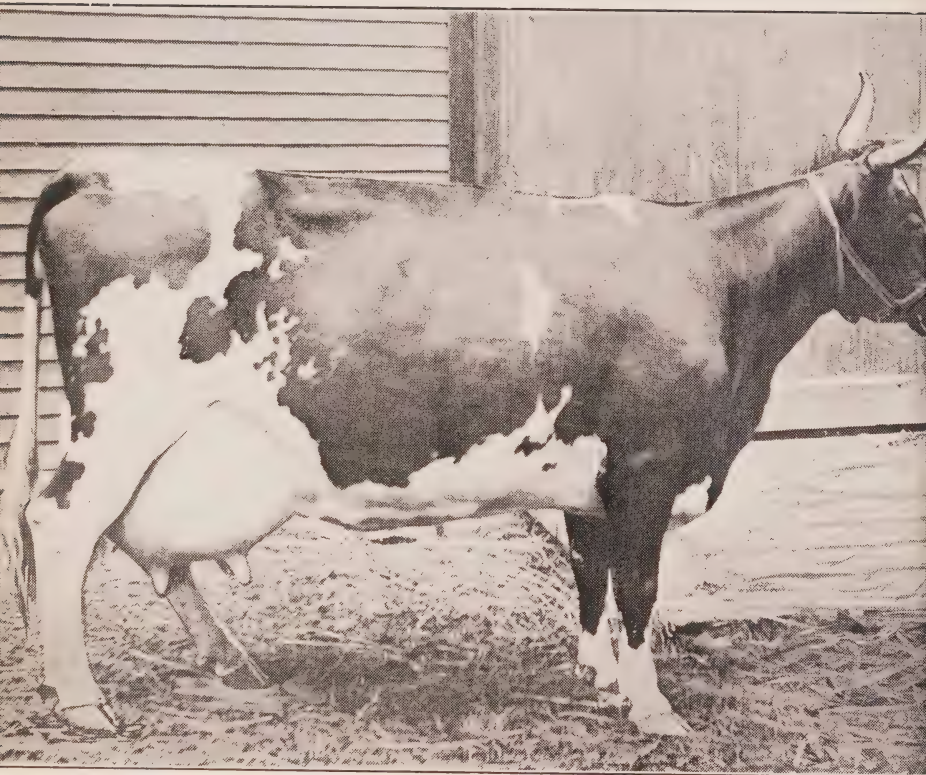
Cathedrals and Churches, Toronto.

THE PROVINCIAL MOTION PICTURE BUREAU

The Province of Ontario, through its Motion Picture Bureau in the Department of the Provincial Treasurer, has made an enviable record for itself in the production and use of educational motion picture films. In 1917 the Ontario Government, first to realize and appreciate the advertising and educational value of the motion picture, entered that field as a producer. Since that time films have been produced on nearly 100 subjects and the library now contains between 300 and 400 copies of these subjects. The films all pertain to agriculture, the industries of Ontario, Northern Ontario, and to many of the beauty spots in the Province. These have been given a wide circulation through the representatives of the Department of Agriculture, one of whom is placed in each county of the Province, through various organizations, churches, schools, Y.M.C.A.'s, etc. In addition to this a number of the films have been shown in the theatres of the Province.

During the war 33 films were shipped to the Canadian Khaki University to be used for educational purposes there. A number of copies of these films have also been sent to Brig.-Gen. R. Manley Sims, Agent-General for Ontario in London, England, and arrangements are now being completed for their distribution throughout Europe and the Colonies, which will mean that millions of people will be able to see Ontario in moving pictures.

The work has gone forward with leaps and bounds and has received the endorsement of motion picture authorities, not only in Canada but in the United States and Europe. The Provinces of New Brunswick, Nova Scotia, Quebec, Manitoba, Saskatchewan, and Alberta are now following out the plan worked in Ontario, and are buying from it a number of films to form the beginning of an educational motion picture library. Educational films are coming to the front and Ontario can lay claim to having one of the finest libraries in existence.



Ayrshire Cow. Record: 20,174 lbs. milk and 774 lbs. butter fat in one year.

AGRICULTURAL PRESS OF THE PROVINCE

Ontario is fortunate in having a number of well-edited agricultural journals, covering every branch of the farming industry, and keeping fully abreast of the latest thought and practice in the various lines dealt with. While some of these publications are devoted more especially to dairying, horticulture, poultry, beekeeping, etc., others are farmwide in their scope, and give a general view of rural operations.

DAIRYING AND AGRICULTURAL PROSPERITY

Farm and Dairy.

The dairy industry is due to be the backbone of the live stock wealth of the Province of Ontario. Already the annual value of the dairy industry in Canada is \$250,000,000, which places it right in the front rank among Canadian industries. Of this wealth, Ontario contributes a large portion, and still is, as she always has been, the banner dairy province of the Dominion. There's a reason. I firmly believe that the dairy farmers are, and will continue to be, the most prosperous class in our rural communities.

A few men have made fortunes growing vegetables in the sunny climate of South-western Ontario. The expansion of this department of agriculture is limited, however, by the requirements of the home market. A few fruit farmers have become wealthy, but as fruit farmers contribute to the food supply what is regarded by man as a luxury or a semi-luxury, the expansion of this business, too, is limited. Dairying, however, is not subject to limitations. Its expansion may be as great as the food requirements of mankind, and these requirements seem limitless. The industry is buttressed by the fact that the soil on the dairy farm does not run out, but continually improves. The dairy farmer's income does not come in one large lump, as is the case in most other branches of agriculture; it is received month by month the year round to be used in meeting current needs. Also the income from a well-managed herd of dairy cattle is greater than that received from any other class of live stock. Hence it is that dairy cattle have increased in numbers, even during the trying year of 1919.

An agricultural journalist who has travelled over many countries tells me that he can pick out the dairying districts from the car window by the good buildings and the general appearance of prosperity which seems to be characteristic of the dairy counties. My own observations convince me that this is true in Ontario; for instance, where in this Province will one find as fine farm steadings as in Oxford County, which is also the banner dairy county of the entire Dominion? Oxford County is a monument to the greatness of the dairy cow as a community builder.

What have dairy cattle done for Oxford County? To use a slang expression, they have put Oxford "on the map." When pioneers first happened on what is now Oxford, I imagine they just looked and passed on. The land was generally swampy. Mosquitoes were the most prolific crop. It seems, however, that settlers will come in spite of the greatest of natural difficulties, and Oxford got its share. Grain and beef-farming

were first engaged in, and those early settlers had their hands full supplying the necessities of a rather bare livelihood.

Perhaps it was the hardness of their lot that drove those Oxford County farmers into dairying. At any rate we learn that about 1853 a cheese factory, the first in Canada, was built near the village of Norwich. Soon another one was started and then another. People got interested in dairying. Those who were not interested soon found themselves being left behind in the race. Their dairy farmer neighbours were building better homes, dressing in better clothes, and generally taking more enjoyment out of life than those who continued to stick to fat steers and wheat.

To-day Oxford County is one of the garden spots of Canada. Capital has flowed in largely through the medium of the cheese factory and the creamery, and still more lately the condensery and the milk-shipping station. Splendid brick and stone houses have become common. Progressive methods of farming are followed. The mosquitoes disappeared when the under-drains came. The money required to buy the tile and pay for the labour came in the form of cheese factory cheques. Dairying has made Oxford.

There are many fine dairy sections in Ontario; in fact, everywhere that the dairy cow has been adopted, prosperity has followed in her wake. The Belleville District, Dundas County, York County, in fact, in counties too numerous to mention, the dairy cow has made for herself a secure place. Not long ago, a prominent breeder of beef cattle gave it as his opinion that once land gets above \$100 an acre, "it's dairy cows or quit."

The future of the dairy cow is assured by her economy as a food factory. The dairy cow is the most economical producer of human food of any kind of live stock. This in the long run is a factor which must determine which branch of farming will continue to exist and expand while others become comparatively unimportant. It is a good steer that will gain fifteen pounds weekly. The good cow will yield at least ten quarts of milk daily. Compare the feeding value of fifteen pounds of flesh and ten quarts of milk in human nutrition and we find that the milk contains six times as much nitrogenous matter, six times as much mineral matter, and just as much fat or its equivalent. I am mentioning this purely scientific side of the question just to show why dairying is so firmly established.

Of course, all dairy farmers don't succeed. There are failures in every business. J. A. Ruddick, Dominion Dairy Commissioner, recently stated, however, that the dairy farmers are in a better position as regards present and future prospects than any other class of men in Canada. I believe he is right. Success in dairying calls for an eternal vigilance that almost amounts to infernal diligence. But the rewards are sure.

DAIRYING IN ONTARIO

Farmers' Advocate.

Those who wish to speak in a complimentary manner of the Province of Ontario often call it the "banner" Province of the Dominion. Certainly this seems to be correct phrasing as regards the dairy industry.

Of 1,568,200 milch cows, furnishing milk to dairy factories in Canada, practically half, or 712,788, are owned in the Province of Ontario. When we consider that the number of cows furnishing milk to factories is only forty-four per cent. of the total number in Canada, it is easily to be seen that Ontario can boast of well over a million dairy cows. In

Ontario there are 45,114 butter-factory patrons, 40,237 cheese-factory patrons, and a total of 96,255 patrons for all dairy factories in the Province. A vast quantity of whole milk goes from the dairy farms of Ontario annually to supply the city milk trade. Just what quantity is produced for this purpose it is very difficult to estimate, but Toronto alone, with its 500,000 people, has approximately a hundred milk distributors, a few of whom are doing business of very large size.

The dairy breeds represented in the Province are the Holstein, Ayrshire, and Jersey, principally, with a few Guernseys. The percentage of pure-bred cows of these breeds is slowly but steadily increasing, although there are still hundreds of farms whereon the grade Shorthorn ranks as the representative of dairying, and often, it must be added, to some purpose. Ontario has every reason to be proud of what her pure-bred dairy cattle have done. Outstanding representatives of each of the three prominent dairy breeds owe their nativity to the "banner" Province of the Dominion. Both the Holstein-Friesian Association of Canada and the Canadian Jersey Cattle Club have their headquarters in Ontario, and the great bulk of their membership also.

While a great deal has been accomplished in the development of the dairy industry of Ontario, there is still much more to be done. Some very large dairy herds are to be found over the Province. In the recognized dairy districts, such as Dundas and Oxford Counties, in the eastern and western portions of the Province respectively, it is very common to see herds comprising thirty or more cows. Milk cheques from the cheese factory or condensery sometimes run up to \$1,000 or more per month, when the flush of milk is on in June, and on one Oxford County farm that we know of 2,200 pounds of milk were being sent daily to the cheese factory in June, 1919, from a herd of sixty-five grade and pure-bred cows. The farm was 400 acres in size.

Perhaps the three great needs of the dairy industry in Ontario can be truly described as labor, organization and quality. Labor at the present time is a very serious handicap. Rural Ontario has been denuded unmercifully of its rural manhood, and before agriculture can "come back," the farms of the Province must have more men wherewith to till the fields. Dairying is dependent upon man labor, and has therefore felt the lack of labor at least as acutely as any other branch of agriculture in Ontario. Our Governments have pledged themselves to the policy of securing suitable agricultural labor by immigration, and the dairy industry in the Province of Ontario should offer a good opportunity for the emigrant. Organization is not utterly lacking in Ontario, and in fact has been proceeding with great rapidity during the last few years.

The dairymen's associations of Eastern and Western Ontario have been supported by the Government for many years and have done a great deal of good work for the industry. The Ontario Milk and Cream Producers' Association is doing now, as a comparatively new organization, a splendid work for milk producers that requires only time and enthusiasm to bring to a successful conclusion. Educative work such as these organizations could do in the way of improving dairy practices, encouraging the use of labor-saving machinery, stabilizing prices by advocating the payment for milk on the quality basis, could easily within five years' time increase the net return to the dairymen of Ontario by twenty-five per cent. annually. There is no lack of opportunity for developing Ontario's dairy industry. Labor, organization and still more quality in our products is all that is needed to bring about the desired result.

COMPETITION

Ontario Poultry Conference, Guelph, June 10-12, 1919

Canadian Poultry Review.

The point to keep in mind in a big way is, namely, that every country under the sun is keen and almost phenomenally interested in the upbuilding of the poultry industry at the present time, and that it is not China or Russia or Egypt or Palestine, but it is the competition of the world, of fifty-five and more countries that shipped eggs to Great Britain before the war, which we will have to meet.

There are some things which are necessary if we are going to win out in this game. In the first place, we must overcome our waste at the present time. The poster on the door there says that Saskatchewan farmers lost a million and a quarter dollars through the sale of fertile eggs last year. What the loss is to Canada we cannot compute. The shrinkage between the point of production and the point of consumption is tremendous. We want to reduce the time and expedite the movement between the point of laying and the point of storage or the point of consumption. The ideal would be to have the hen lay the egg alongside the breakfast table or beside the storage door. We need to pay more attention to certain of what might have appeared more or less minor details in the ten planks of the National Poultry Policy laid down at the Canadian Convention held in February. We need service in transportation; we need perfection in storage to a degree we have not dreamed of in Canada as yet. We need quality payment. We need co-operation and dispatch in marketing. We need increased consumption at home, but we must, first and foremost, do everything we can to overcome that waste. The story of the waste in eggs in Canada alone would make fiery material for every live poultryman to drive home. There is work to be done by every poultry association and everyone interested in poultry along this line, if they will; and where there's a will there's a way.

Canada needs increased production. The six million or more dozen we have sent to England is but a drop in the bucket. We want to talk in tens of millions of dozens; one hundred million dozen eggs to England would be a fair measure of our possibilities. We need that much to make an impression. We must advertise our product.

Canada has to meet the world-wide competition that is coming. It is going to be a matter of costs—the costs of production.

Our cost here, plus our transportation charges, taking into consideration our extra quality, will have to be commensurate with costs in those countries. How are we going to do it? Our labour is higher than theirs. I contend our climatic and environmental conditions are much superior. **ECONOMIC PRODUCTION IS THE SOLUTION—ECONOMIC PRODUCTION THROUGH STOCK IMPROVEMENT.** It is true Canada must have more hens on every farm, but it is the increase in the production of the individual bird on that farm, from an average of five or six dozen to an average of at least ten or twelve dozen, that is going to count most in the end. Increased production through stock improvement and the concentration of effort on the part of each and all to see that every hen in this country does her duty in the way of producing quantity is the great big problem that faces Canadian poultry men in the next five years.

SUCCESS

Farmers' Sun.

No other part of the world offers so many attractions to people of moderate means, or without means at all, who possess the virtues of thrift and industry, as are offered by the Province of Ontario. Here we have a combination of the new and the comparatively old. Population is still comparatively thin on the land and consequently land is still relatively cheap. Good hundred acre farms, well fenced, with comfortable houses and well equipped outbuildings, can be bought for six to ten thousand dollars, depending on location. At the same time, the pioneering stage being now well in the background, the advantages incident to an advanced stage of civilization—rural telephones, rural mail delivery, schools, churches, good roads, and marked facilities—are to be had in all parts of older Ontario.

Experienced farmers, with moderate capital, can find here farm homes in which they can enjoy all the comforts of a matured civilization. Men without capital, but willing to work, can secure employment at wages which give an assurance to the farm laborer of to-day of becoming a farm owner in the not distant future. Inexperienced farm help commands \$20 to \$25 per month with board. Single men with farm experience are paid up to \$50 per month with board. Married men are paid as high as \$700 a year with free house and other perquisites. If there are children in the family over school age these can easily obtain profitable employment near the parental home. Children of school age can be made self-supporting while at school by work, done in the holidays and after school hours, either in the home garden or on neighboring farms.

The foundations of the Ontario of to-day were mainly laid by men from the British Isles, who came here in the first half of the last century. Practically all of those who came during that period, although landing in a country that was then new, and who for the most part came without capital, acquired a competence for themselves and gave their children a good start in life. The opportunities of the present are vastly greater than those offered fifty or seventy-five years ago.

Two illustrations of present day possibilities which have come under my own observation may be mentioned:

An English lad of 18, with bare hands and a clear head as his only capital, settled in a western county. He worked as a farm hand for a few years. Then he rented a farm. Later on he bought a place. Before he was fifty he had a comfortable brick cottage, fine barn, an excellent herd of grade Holsteins, and his liabilities were less than a thousand dollars. Meantime he had enjoyed at least one visit to the old home.

Eight years ago a young lad, whose father had been accidentally killed while working as a corporation laborer in England, came to one of the eastern counties. He was fortunate in locating in a good farm home. To-day, at 21, he has a capital of \$500. In another two or three years, if all goes well, he will be a renter. From that position he will move up to be a farm owner, and before middle life will stand debt free on his own hundred acre homestead.

What this one has done, and the other is doing, others can do.

POWER FARMING REDEEMING ONTARIO

Farmers' Magazine.

The Province of Ontario stands at the porchway of a glorious future. Ensconced in the strategic centre of our vast Dominion, with the best wealth of soils, the clearest fresh water lakes and streams, and an understratum of minerals, the importance of which is yet little guessed, we have here all the requisites for a population of many millions, a land of real homes under skies that mingle sunshine and shadow in the best of proportions. Agricultural life in the past has been filled with a wealth of association in every township, and while the population in the rural districts has been shifting in recent years, the reasons are by no means as derogatory to agriculture as a first glance would indicate. Rather does it open up possibilities which already are beginning to be realized by many of our own people. Farm life in Ontario is so varied and withal so pleasant that there is bound to be a reaction at a very early date which will carry the slogan to own a farm—to every part of our splendid heritage.

Power farming is coming to the rescue. Tractors, trucks and automobiles with their attendant improvements in roads, buildings and in the methods of farm work are bringing to agriculture a vitality that is noticed on every concession and in every farm family. Oldtime zeal is returning, and the problem of hitching up electric power to our troubles, of installing the internal combustion engine to grind our feed, cut our corn, bind our grain, light our houses and pump our water—all throwing out to the farm lad the challenge of potential power enterprises to which his fine Canadian mettle is responding with all a pioneer's earnestness and optimism. Such a movement among the maple lanes of our land bespeaks a busy, prosperous countryside in this province, snuggling as it does so contentedly in the arms of the big, fresh water lakes. A land of peaches, and pulpwood, of red apples and cobbler potatoes, of sleek cattle and Wiltshire bacon, Ontario will double her billion annual agricultural production in the very near future, for millions of hungry people lie within a 300-mile orbit of her shores, to say nothing of her overseas wealth of opportunity in bacon, poultry, flax and sugar, as well as in pure-bred animals that are wanted to head the world's flocks and herds.

THE TRACTOR IS COMING

Canadian Horticulturist.

This past summer has seen hundreds of tractors go on to our fruit farms. Why? Simply because under the conditions we met with, many orchardists found it, not a question of whether or not a tractor could do their work cheaper than horses, but rather, can a tractor do our work? For horses couldn't.

There was the shortage of labor to be considered. There was the tremendous amount of work to be done, and it was necessary to keep the orchard cultivated. There was the hot spell in June that put the horses on the shelf and there was the drought that made it impossible for horses to get through at all. So it wasn't a case of the cheapest method, but of taking the only method of getting all the work done and getting it done fast, and with the increasing difficulty of securing orchard help this factor will come more and more to the fore.



The Tractor Silo-Filling.



The Tractor Harvesting.

But, although many bought tractors this summer owing to the peculiar weather conditions and not because it was cheaper than horses, it has been ably demonstrated that a tractor in many orchards is cheaper than horse labor. Many growers who bought these machines, not because they were satisfied with them, but because they needed them, have become enthusiastic over their prowess, and it is probably safe to say that eighty per cent. of these buyers will use their tractors constantly hereafter.

For the foregoing reasons, and because he can always get his work done with a tractor when wanted, it is safe to presume that in the not very distant future tractors will be considered a necessity and not a luxury on Canadian fruit farms.

The average orchard does not demand a large tractor because the implements that are necessary for its upkeep are not large or heavy enough to warrant it. Economy is an important question, and the selection of too large a tractor is poor economy in both fuel and investment, while too small a tractor is false economy of labor. The character of the soil and its operative condition should be the guide in determining the horse-power necessary, remembering that too small a machine and heavy work leads to immediate trouble, and too large a machine on light work to waste.

The various makes have never been subjected to uniform competitive tests. Aside from the known reliability of many of the companies manufacturing these machines, fruit growers have virtually been "buying in the dark." But they are being bought just the same. There were twelve tractors in Ontario less than six years ago. There are now over 800. They are found in considerable numbers in Quebec, and there are a few in the Maritime Provinces. In Western Canada tractors are having a phenomenal sale.

DRAINAGE ESSENTIAL IN CROP PRODUCTION

Canadian Farm.

With the unrest characterizing the world's seething masses, the demobilizing of a hundred armies and the appeal of starving thousands, it necessarily means that if the anxiety of the present time is to be overcome there must be no abatement of the activities in the development of our natural resources. That development must not arise from the opening up of broad acres of virgin soil to foreigners, but rather that development resulting from a more scientific system of soil management embracing that of cultivation, fertilization and drainage—in short, an intensive system of management.

Drainage will do more to ward off this end than anything else the farmer may undertake. By improving the texture of the soil, by producing a uniform moisture content, by lengthening the growing season, by deepening the root zone, thereby giving greater volume of plant food, drainage has proven one of the best dividend-paying propositions on the Ontario farm.

Realizing the importance of drainage the Ontario Department of Agriculture in 1906 determined to further it throughout the province. W. H. Day, Professor of Physical Science, Ontario Agricultural College, started the work and directed operations at its inception. Needless to say the work has developed annually until it has assumed large proportions.

The work as carried on by the Department of Physics is of a three-fold character: (1) Surveying and levelling work; (2) Demonstration work; (3) Investigation work. All three of these branches have been developed, especially the first. The following table indicates the advance made and extent of survey work up to end of 1918:

Year.	Acres Surveyed.	Year.	Acres Surveyed.
1906	500	1913	13,705
1907	3,500	1914	13,386
1908	5,000	1915	15,336
1909	5,157	1916	14,694
1910	14,672	1917	11,988
1911	15,211	1918	10,911
1912	17,212		
		Total	141,272

The demonstration work as carried on has been practically discontinued of late owing to labor and financial conditions during the war. However, 29 plots have been drained. The scheme consisted of selecting one or two ten-acre fields in each county, where drainage was necessary but unpractised. Each field was divided and one half was drained, the other half remained undrained. The work was done by a traction ditcher, so the farmers not only saw the drainage system laid out and installed, but saw the most improved drainage machinery in operation.

The results on the majority of the plots have been gratifying, but on a few the visible results were not so marked as was hoped for. This may be due to several causes, but the lack of investigational work into the drainage properties of soils, especially our clays, has meant that the installation of the system has been at fault rather than the practice of drainage. Other unknown causes may have prevented the best results being shown.

The investigational field has not been invaded to any extent, although the work is very necessary. The drainage properties of soils; the standardization of the curing and manufacturing of cement tile; the action of soil acids on tile and the durability of tile in all types of soil are problems which should be considered and solved if possible.

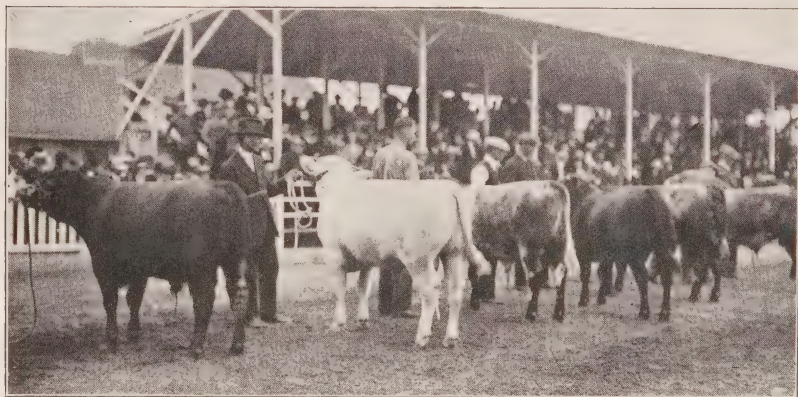
When the work was first started, undergraduates were appointed to carry it on. These men had at least two years' college training and were qualified to make the necessary levels and plan the system so that a farmer could start at his drainage work when he was able to do so. The services of these men were paid by the Department of Agriculture, but all travelling expenses had to be made up by the farmer desiring the surveying done. During 1917 the maximum charge to the farmer was set at \$2.

Some years ago the Department of Agriculture set aside \$1,000,000 to be used in drainage work. At first \$30,000 was the limit to which any municipality could borrow. This was, however, increased until the amount now allowed is \$100,000. The money is loaned to the farmers at 5 per cent. repayable in 10 or 20 years, or at any time during that period, by a system of deferred payments. The limit, however, allowed to any farmer is \$1,000, or three-quarters of the total cost of the drainage work. In Western Ontario farmers have availed themselves of this opportunity and have subscribed for the limit allowed in some municipalities.

The above table is indicative of the popularity of the work. Nor is that all. The work itself is very gratifying indeed. Whenever a system has been installed it has paid for itself in from one to five years. Investment such as this surely is worth considering.

What of the future? The work is sure to grow. Forty per cent. of Ontario is in urgent need of drainage. Another 40 per cent. should be drained to get the best results and at least 10 per cent. of the remaining would be improved to the extent of paying high interest on the investment.

While Northern Ontario may seem to be beyond the invasion of the drainage man's scope, it is nevertheless true that a large field is opening up there for special attention.



Shorthorn Bulls, Ontario bred, C.N.E., 1919.

TAKING A "DAY OFF" ON THE FARM

Canadian Countryman.

No one enjoys a holiday better than the average farmer, and in summer especially it comes as a pleasant break during the long hot days of work in the field. There is one space of time just before haying comes in that work is slacker than at any other time till after harvest, and during this spell is the time a holiday comes in all right.

There are different ways of holidaying, but during the past season a number of the district representatives have organized auto tour excursions through different parts of Ontario, and the number of farmers taking them in have at times been well over one hundred. These excursions are laid out to take in some of the better farming sections of Ontario, and visits are made to the farms of notable breeders of live stock, etc. The farmers thus have a very enjoyable outing and also see many interesting features of farming, which help to convince them of the soundness of certain methods better than any amount of talking or writing could do.



Grapes, Figs, Peaches, in Niagara Peninsula.

In Middlesex County the farmers, under the direction of R. A. Finn, District Representative, took a tour through the Counties of Essex and Kent, visiting some of the highly specialized truck and fruit farms of that district, where such crops as potatoes, tobacco, beans, onions, etc., are grown. It is intended to make the outing an annual event, and next year they plan to take in some section where pure-bred live stock is the chief industry.

Waterloo County farmers, with J. S. Knapp, representative, took a trip through the Niagara district. They also visited herds of pure-bred Holsteins at C. D. Flatt's, at Freelon; Ayrshires, at Mr. Turner's, and later called at the Larkin farms at Queenston. Prominent fruit growers showed them through their orchards and explained methods of working. A visit was also made to the Vineland Experimental Station and to the Rittenhouse School, which is a good example for other schools in showing what can be done in beautifying the school and its surroundings. It is one of the beauty spots of the section.

Two of the groups from Brant and Essex made trips through a couple of the States across the line from Buffalo and Detroit. Mr. Schuyler of Brant took his excursion of sixty through the fruit section of New York State, as well as visiting several herds of pure-bred live stock.

Mr. J. W. Noble, of Essex County, took his Junior Farmers' Association through Michigan to visit some of the herds of live stock in that State. The trip covered three days and was made in motor cars.

Among other counties taking trips was that of W. G. Marritt with Wentworth farmers. Over one hundred toured down to Guelph, inspected the stock and experimental plots, etc., at the Agricultural College, the wool sales building, the herd of Holsteins at the Prison Farm, and from there proceeded to Toronto. One day was taken up visiting herds north of the city, out through Newmarket and the surrounding country. They saw the Holsteins at Shaw's Roycroft Farm, and also those comprising the Burnaby herd, which were much admired.

The trips in all cases have been very popular, and each year will doubtless see more counties making use of their opportunities to gather new ideas. There is nothing so convincing as "seeing with your own eyes." By visiting better farms the value of certain methods will be realized more fully than can be done by having read of them or listened to their being described. Next year, if your district "rep." holds a tour, plan to be in it and you will never miss one afterwards.

LOOKING AHEAD IN ONTARIO.

Rural Canada.

Some day there will be a great awakening amongst the people of Ontario, who will then see and appreciate what they have and hold in this rich old banner province of the Dominion.

To the young man looking out on life, to the parents who would "set up" a boy or boys in farming, to the Old Countryman coming to this new country, we would say, behold what good old Ontario offers:

A home—brick and stone houses with all that makes for a home, ready and sufficient income, pleasant environment, trees, water, varying scenery, neighbors, convenient schools and churches and market centres, travel opportunities, daily mails, culture, accessible entertainment.

Food in abundance, varied to one's taste.

Land that is cheap in Northern Ontario; land that is **yet cheaper** in some parts of Southern Ontario, where it is priced at less than the cost of erecting the buildings thereon!

Some day—some day soon—our people will come to appreciate their great possessions in Ontario—a land where the crops never fail—(by virtue of mixed or diversified farming—where the seasons are reasonable, where all manner of produce is marketable for cash close at home, where health abounds and people are truly happy.

Speed the day when we shall all be keenly conscious of the great advantages and many blessings of the life in Ontario Province, with profitable work for all—even the work being available in variety to suit any reasonable people.



Farm Residence.

THE DAILY PRESS

There are 588 newspapers and magazines in the Province of Ontario, including 45 dailies and 373 weeklies. Several dailies give their opinion of the resources of the Province:—

ONTARIO'S FIELD FOR IMMIGRANTS

In the rush of emigration from Britain to Canada, expected when shipping accommodation is freely available, the advantages of Ontario for settlement deserve special attention. Ontario is more nearly like Britain in the character and size of its industries, and the diversity of its community life, than any other Canadian Province. An all-British Province, it has the honor of being the great manufacturing hub of Canada. Three-fifths of its population live in cities, towns or villages, producing nearly one-half of the manufacturing output of the whole Dominion, while the two-fifths in agriculture also produce more, in value, than the farmers of any other Province. As between urban and rural sections, trade in Ontario is most highly developed, and the richness and diversity of industry and resources mark it as a specially attractive Province for the British newcomer.

A very large consideration in the mind of one seeking to settle in a new country must be assurance of continued work. Ontario's rich agricultural areas, even in the older parts of the Province, are but scratched, while in Northern Ontario millions of acres of fertile land go begging for settlers. Anywhere in Canada a farmer settler may find opportunity, but the British settler leans more to market gardening, and agricultural specialties. The climate of Ontario is specially adapted for diversified farming, for dairying, fruit-growing, poultry-raising, bee-keeping and live stock raising. These specialties in agriculture require good local markets, and in this respect the advanced state of Ontario manufacturing and commercial life is unexcelled. Ontario's factories produced in 1917 nearly two billion dollars' worth of products. The production per capita, including cost of materials, was not far from \$5,000. The manufacturing industries of Ontario have been wanting labor ever since war business intensified demands for manufactures. The growth of the Canadian West keeps them busy at a rate of production far surpassing Ontario's capacity for consumption. This Province is, in fact, the workshop as well as the garden of Canada, and affords a variety of opportunity to immigrants.

In the expected wonderful growth of Canada, in the peace period, Ontario is bound to take the lead. This Province furnished nearly half of the soldiers in Canada's army of half a million, and nearly half of the money raised during the war. Ontario has everything in natural wealth and productive potentiality that any State can require—immense fertile lands, water-powers, forests, minerals, fisheries, fine cities and towns, efficient education and social life, and an all-pervading spirit of progressiveness.—Mail and Empire, November 3, 1919.

THIS GREAT PROVINCE

Revelations of the riches of Ontario come in so rapid a succession that the people of the Province have almost ceased to wonder at the vastness of their heritage. Three United Kingdoms or two Germanys could be put into this one division of the Dominion. It has every product of the temperate zone, except coal, a deficiency redeemed by the greatest water powers in the world adjacent to centres of popula-



Ontario Farms.

tion and hives of industry. A mineral discovery which brings hundreds of prospectors from across the line stirs little interest in the Province outside the district affected. We take these things too much for granted, and scarcely appreciate the lavish bounty of nature. The development of mineral wealth in the Timiskaming region is one of the romances of the continent. Cobalt made a sensation in two countries when its riches were first uncovered, but it was only the door to a treasure-house of the precious metals so vast that no limits can be placed on it. The forest assets of Northern Ontario also can be estimated only generally because of their magnitude. Under a conservation policy which would not retard their yield they can be made a perpetual and growing source of revenue. The reserves of pulpwood have made the Province the seat of pulp and paper industries which are among the largest in existence. These industries are expanding rapidly, and with ordinary foresight should, in conjunction with those in Quebec, command the continental market, in which they already play an important part.

The backbone of the Province is, of course, its agriculture. We read of disastrous crop failures elsewhere, but take it as a matter of course that no such calamity can befall Ontario. There is no part of North America which has a wider range of production without irrigation or is less endangered by the fickleness of the climate. Crops do not fail in Ontario; this or that particular one may fall below normal in an unfavorable season, but the average is maintained with a certainty that creates the solid foundation of our prosperity. The value of field crops last year here was about \$365,000,000; of the live stock sold, about \$100,000,000, and of dairy products, between \$75,000,000 and \$80,000,000.

It is well to repeat the story of Ontario's natural wealth as a stimulus to hope and confidence in the future. It is the supreme industrial as well as the supreme agricultural Province in the Dominion, and it will remain in that proud position if the people are worthy of their inheritance and have the energy, thrift, and other moral qualities to make the material factors of greatness with which they are blessed serve the real purpose of life.—Toronto Globe, September 16, 1919.

ONTARIO'S OPPORTUNITIES

The urban population of Ontario is now larger than the rural population. The opinion has been expressed that we have overdone the business of building up cities and towns, while the country districts are losing population.

The fault, if such it be, can be mended, not by a reduction in the urban population, but by making better use of our agricultural resources. Ontario is adapted to the needs of a mixed population. It has an abundance of fertile land, but it also has forests, mines, and water-powers which mark it out as the seat of great manufacturing industries.

For those who prefer farming there are abundant opportunities, not only in the north and west, but in the south, the old settled parts of the Province. The latter is perhaps best adapted to those who have a little capital to invest. The newspapers publish every day columns of advertisements of farms for sale at moderate prices in the older part of Ontario. Those who want to help returned soldiers desirous of becoming farmers have an opportunity of assisting them to settle down in districts where there are neighbors, schools, churches, stores, and good local markets for their products.

In the north the conditions of life are somewhat harder, yet there are chances here, too, for young, vigorous men with little capital except muscle and brains. In Northern Ontario there are abundant water-powers, besides forests and minerals, which may become the bases of

great industries, and these industrial centres will afford markets for agricultural products.

As we study the history of the war and the conditions of peace, we note the importance attached to regions which are small in extent compared with Ontario. Our Province contains 407,262 square miles, or about as much as France and Germany combined. Making all due allowance for the extraordinary fertility of France, we may fairly say that the resources of Ontario are equal to those of either of the two European countries, and that we could easily accommodate at least ten times our present population. For the present Canada will probably move rather slowly and cautiously in the matter of immigration, but there will be a steady increase of population, and there are splendid opportunities for those who are already in possession or are admitted as immigrants.—Toronto Star, May 12, 1919.

WEALTH OF ONTARIO'S VAST HINTERLAND

Ontario mining should be viewed generally as a fundamental industry. The mining fields are developing more rapidly now, because investment capital is coming in from the United Kingdom and the United States, and the gold mines are attracting more Canadian capital. Ontario ranks fifth among the gold producers of the world. It is safe to say that with adequate capital invested for development, the gold mines of this Province will, before many years, rank second only to the Rand.

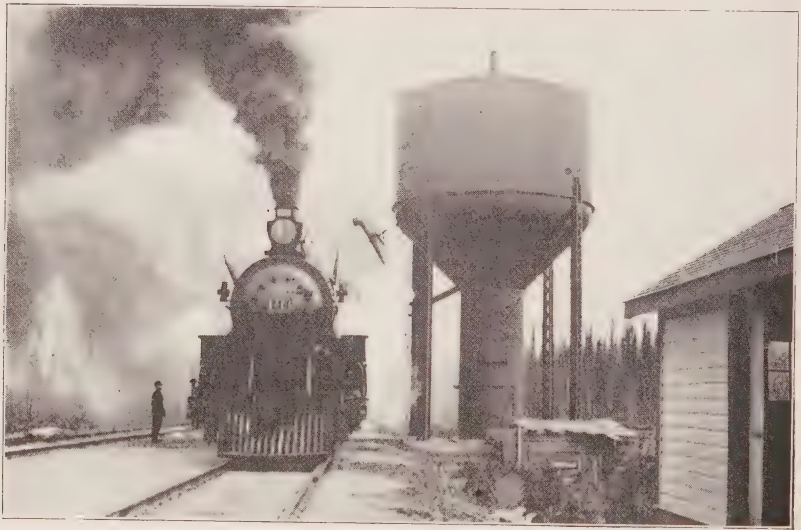
In a review of the possibilities of Northern Ontario gold mines one cannot do better than quote the words of Mr. Arthur A. Cole, a well-known Canadian mining engineer, who says: "In Northern Ontario a circle can be constructed whose radius is 70 miles, which will include three of the most noteworthy, if not actually the most important mining camps, in the world. . . . When we consider that these three camps, Sudbury, Porcupine and Cobalt, are producing in such a small part of Canada, we are lost in the immense possibilities that the Land of Promise to the north holds in store for us. The United States has no large areas left to prospect, so that the future of this pioneering work belongs to Canada. Up to the present we have only touched the fringe of an area, consisting of thousands of square miles, extending north-west to Alaska and north-east to Ungava Bay, in which are known to exist large stretches of rocks similar to the already productive camps."

The nickel mines of Sudbury produce approximately 85 per cent. of the total world's supply and have practically a monopoly of the world's market. The Cobalt silver camp ranks third among the world's producers of the white metal, having shipped since 1904 no less than 300,000,000 ounces, valued at \$180,000,000. In its history Cobalt has paid over \$90,000,000 in dividends to shareholders. Northern Ontario has produced over \$45,000,000 worth of gold since 1911, and has paid in dividends over \$15,000,000.

Porcupine and Kirkland Lake Gold Camps have become fixed in the memory of Canadians, the former is a decade old and the latter half a decade. The industry in these camps, however, is in its infancy. In Northeast Tisdale and beyond half a dozen properties are developing where there was one before. Mining activities have spread rapidly in Northeast Kirkland Lake. In Boston Creek, Larder Lake, West Shining Tree and in the Matheson district, newer gold fields hold out promise as definite as Porcupine did in its early days. Whereas some fifteen gold mines in Northern Ontario are on a producing basis now, in view of more recent developments in a greatly extended area, it appears safe to estimate that within five years at least fifty mines will be producing gold.—Toronto Times, August 9, 1919.

NORTHERN ONTARIO

Northern Ontario is a splendid new land of 330,000 square miles, composed of eight great districts, with immense resources in soil, timber, minerals, and water powers. Thousands of miles of railway and roads begin to penetrate its vast area; and settlements, cities, towns, and villages, throbbing with new life, are already there, with much expansion soon to follow. But the fringe only of that territory is touched, and the opportunities of a living and a fortune are



Standard Equipment, C. N. Rys., Capreol, Northern Ontario.

holding out alluring and beneficent hands. Read "Northern Ontario," issued by the Bureau of Colonization, for description, statistics and detail. Very little can be said here.

The direction of settlement in Canada is changing. Twenty years ago the tide of immigration began to flow towards the great western provinces of Manitoba, Saskatchewan and Alberta. The newcomers were from the provinces of Eastern Canada, the United States, the United Kingdom, and from Europe generally. They sought the west because in great part it was a vast treeless plain of

amazing fertility. It afforded an easy means towards a home in a new country. Railways were being spread throughout its great range of territory. For years the movement grew until the high-water mark in immigration was set in 1913, when 403,000 newcomers entered the Dominion of Canada.

But even in a country as wide as Western Canada, the glorious homesteading opportunity could not last for ever, and it is not so easy for a pioneer to locate a homestead close to railways as it was even a few years ago. Men are compelled to go farther from the steel, and the tendency of settlement west of the Great Lakes is to purchase improved property or close-in property rather than to expect desirable land close to railway lines. The necessity of taking care of returned soldiers who desire to move to the land has made it almost impossible for a newcomer to the country to secure a quarter section in what might be called a reasonable distance from the railway.

So it comes that the great fertile belt of sixteen million acres in Northern Ontario is coming into the consideration of the seeker after land in Canada. It is probable that within the next few years the tide of pioneers flowing in that direction will have assumed considerable proportions. Settlements already dot the main lines of Canadian National Railways, which serve those great areas of the central north, and the clearings are being pushed back steadily from along the right-of-way. At almost every river crossing there is a lumber mill or two, and in that region are several large pulp or paper mills. The opportunities afforded there for work at high wages is in some cases a welcome boon to the settler, and the operations of the lumbermen are contributing materially to the clearing of the soil.

There has been considerable misconception in relative locality about this great fertile plain, and the idea exists with many that it lies too far north to afford possibilities from the agriculturist point of view. This is far from being the case. Cochrane, the chief town in the Clay Belt proper in Northern Ontario is about fifty miles south of Winnipeg in point of latitude, and Winnipeg in latitude is close to Paris and south of the United Kingdom. The southern end of James Bay, approximately one hundred miles beyond the northern limit of this fertile belt, is on a line with, say,

Dresden in Germany. The northern limit of the Clay-Loam Belt is approximately in the same latitude as the city of Saskatoon in Saskatchewan.

There has also been a great deal of misconception as to the climate. In June there are up to 16 hours of sunlight out of 24, and the days are usually beautiful and clear. While the casual visitor would be willing to admit that the summers are entirely enjoyable, the settlers contend—and in this they appear to be unanimous—that the winters are the more enjoyable season in that country. When the temperature drops the winds die, the snow is light and flaky, and apparently the clothing that would be sufficient to warm the resident of Montreal or Quebec is quite ample for the settler in the north country. There is an abundance of wood for fuel, and the winter has no terrors for the hardy pioneers. Between 8 o'clock in the morning and 8 o'clock at night there is often a variation of 40 degrees in temperature, but those who live there are emphatic in declaring that they prefer the clear weather of the north to the milder, damper climate usual in Southern Ontario.

At Monteith, at Kapuskasing, and at Fort William, in Northern Ontario, Government farms have been established to demonstrate the possibilities of this north country. The farm near Fort William is not in the Clay Belt proper, but the land is similar in composition and the crops produced are generally the same. The farm at Kapuskasing is under the direction of the Dominion Department of Agriculture, while those at Monteith and Fort William are established by the Province of Ontario. All three are calculated to provide the settlers with the results of necessary experimentation in the north country, and, for the reason that they are established at appropriate points, each should prove to be a nucleus of a considerable agricultural settlement within the next few years.

Under the Northern Development Branch of the Ontario Government there has been expended approximately \$140,000 in seed grain, which has been distributed to the settlers in Northern Ontario. This has been granted them, and notes are taken for its repayment. There has been approximately \$460,000 granted on loans to settlers upon the security of their land. A creamery at New Liskeard has been established and is operated by the Government for the benefit of farmers in the vicinity. Several carloads of cattle

have been shipped into Northern Ontario, which can be purchased on time, repayable in twelve months.

A returned soldiers' settlement is established at Kapuskasing, where a returned man can acquire 100 acres of land free, with 10 acres cleared by the Government and assistance given him in building a house.

The following reviews of "Northern Ontario" from leading Toronto dailies are comprehensive and helpful:—

NORTHERN ONTARIO

A new handbook on Northern Ontario has been prepared by the Government and may be had from the Department of Lands, Forests and Mines.* What the empire of Ontario may eventually become no one can say to-day, but the extraordinary opportunities offered by a country four times the size of old Ontario, and far bigger than France or Germany, are only dimly appreciated. In its 330,000 square miles there are twenty million acres of agricultural land, whose development is the best test of its quality.

Developing new land of this kind is no easy task, and only stout men with dauntless hearts should attempt it, but for them the rewards are great and certain. Full details of soil and climate are given in this pamphlet, and there is no deception regarding conditions. The facts are with those who have faced the conditions and succeeded, and it will never be so hard for anyone again as for these pioneers.

Nipissing, Timiskaming, Sudbury, Algoma, Thunder Bay, Rainy River, Kenora and Patricia districts are all described. The last-mentioned is 573 miles long by 367 broad, and is as big as all the British Isles together and a fifth more. It has a coast line of 600 miles on James and Hudson Bays. This vast tract awaits such enterprise as turned Cobalt and Porcupine, Haileybury and Cochrane into mining and farm centres.

All the information required by intending settlers is contained in these pages, and full information is contained of all the towns and villages in the districts named. General information for visitors, hunters, miners, lumbermen, ranchers and others interested in the various features presented by the country is supplied, and the neat and attractive appearance as well as the valuable information contained will tend to perpetuate its usefulness.—World, July 11, 1919.

NORTHERN ONTARIO'S OPPORTUNITIES

The farming possibilities of Northern Ontario may obtain more attention from intending settlers now that some of the glamor of prairie soil-mining is fading after three successive short crops. Northern Ontario has many advantages over the West, especially for the settler who is not staking his resources on the success of a grain crop alone, but is willing to undertake the harder, steadier work of mixed farming. The new booklet on Northern Ontario issued by the Ontario Government deals fully with these advantages, and should lead many an intending settler to consider if he should not stay in the old province.

* "Northern Ontario" may be had only from the Bureau of Colonization, Department of Agriculture, Toronto.

Among advantages in farming in Northern Ontario, as stated by men who have had experience of it there, are a plenitude of fuel in winter, shelter for stock, no wind-storms in summer, no blizzards in winter, good water, fine scenic surroundings, more employment in the winter months, less need of capital, less frost and no hail, and good local markets. Though the growing season may be somewhat shorter than in the West, it is long enough to mature crops that are superior, in quantity and quality, to the average of older Ontario. Land is cheap, even when close to the railroads, and clearing can be done at little cost, or perhaps with a good profit, by selling the timber, for which a ready market usually exists. To get started on large-scale production may be a longer process than on the prairie, but profits are sure and steadier as a rule. In some districts in the West farmers have had most discouraging results for several consecutive years, and their net returns are probably lower than those obtained by the "bush-farmer" who has had industries to turn to for winter employment if summer earnings are short.

The Government booklet deals with these and other questions people interested in Northern Ontario are likely to ask about. It contains about eighty illustrations of crops, industries and scenes typical of the settler's life. There is no doubt that the next influx of settlement from Europe will pay increasing attention to Northern Ontario, for homestead land in the West is practically gone—that is, land within forty or fifty miles of a railway—and Northern Ontario's 330,000 square miles now becomes the last great area of practically free settlement land on the continent.—Mail and Empire, July 16, 1919.

BIG STRIDES IN NORTHERN ONTARIO

What settlers say of the soil, climate, farming and forest life of Northern Ontario is told in a most attractive illustrated booklet just issued* under the direction of the Minister of Lands, Forests and Mines for Ontario. It contains a wealth of information of interest to everybody, including much about the wonderful mining industry and that rich part of the country.

The booklet gives an abundance of detailed description of the various districts, what they possess and their possibilities. The illustrations prove the progress that is being made. The wonderful resources of the northern section of the Province are set forth, as well as mention of the great work the Ontario Government is doing on the demonstration farms at Monteith and New Liskeard.

Facts in regard to colonization, roads and railways are exceedingly interesting, as is the information in regard to lumbering and mining, the markets, hunting, and fishing, education and various other subjects. There is something about every town and village in the district, stating its position, present population, and its facilities, showing that the new part of the Province is going ahead in a satisfactory manner.

Full instruction in regard to acquiring a title to public lands in Northern Ontario are given in this useful booklet, including information relating to the free grants for returned soldiers and sailors.—Times, July 14, 1919.

* The booklet is issued only by the Bureau of Colonization, Department of Agriculture, Toronto.

ACQUIRING A TITLE TO PUBLIC LANDS

Public Lands may be acquired in any of the eight Districts of Nipissing, Timiskaming, Sudbury, Algoma, Thunder Bay, Rainy River, Kenora, and Patricia, composing Northern Ontario, and in Parry Sound, Muskoka, Haliburton, Peterborough, North Hastings, Frontenac and Addington, North Renfrew, and Centre and South Renfrew in Old Ontario.

The Districts are divided into agencies in charge of Land Agents, whose duty is to give information, receive applications, and supply forms of affidavits.

Agricultural lands open for disposal may be obtained—

- (1) By PURCHASE.
- (2) By FREE GRANT.

Sale of Lands

Quantity and Terms

The townships open for sale are subdivided into lots of 320 acres, or sections of 640 acres, and according to the regulations now in force a half lot or quarter section of 160 acres, more or less, is allowed to each applicant. The price is 50 cents an acre, payable one-fourth cash, and the balance in three annual instalments with interest at 6 per cent.

The applicant must be a male (or *sole* female) head of a family, or a single man over 18 years of age.

The sale is subject to the following conditions: The purchaser must go into actual and *bona fide* residence within six months from date of purchase, erect a habitable house at least 16 by 20 feet, clear and cultivate at least 10 per cent. of the area of the land, and reside thereon for three years.

The intending purchaser should make application to the Crown Lands Agent in charge of the township in which the land is situated, and file the affidavit required.

No person shall be permitted to hold more than one location, being unpatented land, of one hundred and sixty acres either by purchase directly from the Crown or from or under a purchaser by assignment or tax deed; but a settler who has performed the necessary settlement duties upon one location of 160 acres and obtained a patent therefor may purchase another location of 160 acres, subject to all the other conditions contained in above paragraph.

Failure to go into residence within six months and perform the settlement duties as aforesaid, or any of them, renders the sale liable to forfeiture.

Proxy Settlement

A person who desires to purchase under Proxy regulations may put in residence an agent, who shall reside continuously upon the land at least six months in each year, and cause to be cleared and put under cultivation not less than twenty per cent. of the said land, whereof not less than five acres shall be cleared and put under cultivation each year. A house of the minimum dimensions, 16 x 20 feet, must be erected, and at least three years from the date of sale must elapse before patent issues.

These conditions apply only to lands lying north of Lake Nipissing and the Mattawan and French Rivers and the Georgian Bay, in townships appropriated for sale for agricultural purposes.

Applications are not received for any public lands for settlement purposes until they are formally opened for sale by Order-in-Council.

Free Grants and Homesteads

Public lands which have been surveyed and are considered suitable for settlement and cultivation, and not valuable chiefly for minerals or pine timber, may be appropriated as *Free Grants*; and such lands may be located in any of the districts comprising Northern Ontario, except Timiskaming, where, however, Returned Soldiers who have seen Overseas Service may get land free.



Deer hunters, Dry Pine Bay, French River.

Who May Locate and the Quantity

With few exceptions all the Free Grant townships in Northern Ontario, proper, are subdivided into sections and quarter sections, or into lots of 160 or 320 acres each, and the locatee, whether he be a single man over eighteen, or the head of a family with children, is entitled to 160 acres only, and the head of a family may purchase an additional 80 acres at the rate of 50 cents per acre, cash.

In St. Joseph's Island, and in the Townships of Paipoonge in Thunder Bay and Cameron, Papineau, Calvin, Bonfield and Ferris in Nipissing, and in Free Grant territory south of the French and Mattawan Rivers, where lots are divided into 100 acres each, *the male head of a family, or the sole female head of a family, having a child or children under eighteen years of age residing with him or her, may be located for 200 acres as a Free Grant; and the head of a family may also purchase an additional 100 acres at the rate of 50 cents per acre, cash.*

An applicant, not the head of a family, may obtain Free 200 acres by swearing off rock and swamp to the extent of 100 acres.

Necessary Settlement Duties

The duties entitling the locatee to his patent are as follows:

(a) At least 15 acres to be cleared and under cultivation, of which 2 acres, at least, are to be cleared and cultivated annually during the 3 years.

(b) A habitable house to be built at least 16 x 20 feet in size.

(c) Actual and continuous residence upon and cultivation of the land for 3 years after location, and thence to the issue of the patent.

A locatee is not bound to remain on the land all the time during the 3 years; if obliged to work out, or has other good cause, he may be absent for not more than 6 months altogether in any one year. He must, however, make it his home and clear and cultivate the quantity of land required (two acres, at least) each year.

Pine on Free Grant Location

Except as hereinafter stated and in Rainy River and Kenora districts where the Free Homesteader gets the pine, Free Grant locations reserve the pine timber, but where a Free Grant patent has issued with a reservation of the pine and the lot is not under timber license the owner may, free of charge, obtain a release of such pine provided by official inspection the land is shown not to contain more than forty thousand feet.

Forfeiture

In case the locatee fails to perform the settlement duties required by law, his location is liable to forfeiture, and may be cancelled by order of the Minister. Applications for cancellation must be made through the local agent, and supported by the affidavits of the applicant and at least two credible witnesses who will show what the position of the lot is; whether the locatee ever occupied or improved, and, if so, to what extent, and the value of the improvements; when he ceased to occupy; and his address, if known.

The mortgage of a homestead by a locatee to another person before the issue of his patent is invalid, and cannot be recognized by the Department. This does not, however, apply to the devise of a Free Grant lot by will, nor to transfers of land by a locatee for church, cemetery or school purposes, or the right of way of railroads.

A locatee shall not, without the consent in writing of the Minister of Lands and Forests, assign his interests.

Exemption from Debt

Free Grant land while owned by the locatee, his widow or heirs, is exempt from liability for debt during twenty years from the date of location. This exemption does not, however, extend to a sale for taxes legally imposed.

Free Grants for Returned Soldiers and Sailors

All honourably discharged Returned Soldiers or Sailors who have served in the Canadian Expeditionary Overseas Forces may secure Free Grants, of 160 acres each, of land in any of the northern townships regularly in the market for sale or location.

The same settlement duties as are required in an ordinary Free Grant location must be performed before patent can issue.

The Regulation will entitle all such returned men who had already secured land from the Crown and paid only a portion of the purchase money, to a remission of the arrears due the Crown and to patent without further payment on completion of settlement duties.

The townships of Kendall, Fournier, Calder and Eilber, traversed by the Canadian National Railway, are exclusively appropriated for the Returned Soldiers and Sailors, and applications may be made through the local Crown Land Agent. The Returned Soldier or Sailor in each case is required, in addition to an affidavit, to file his discharge certificate, a copy of which is retained by the Department, the original being returned.



Rainy Lake country (C. N. Rys.).

Islands and Summer Resorts

Points of land on the main shore or parts of township lots may be disposed of for \$10.00 where the area does not exceed two acres, or at \$5.00 per acre where the area exceeds two acres. Islands may be purchased at \$10.00 an acre.

Only one island and one parcel on the mainland may be patented to one individual. No summer resort may exceed 25 acres in area, and where an island exceeds that area it shall be subdivided into two or more locations and in such a manner as not to impair the value of the unapplied-for portion, and in the case of large islands and portions of mainland, if the nature of the ground will permit, the frontage along the water of any one location shall be approximately half the depth thereof, but in no case shall it exceed the depth. In laying out locations along the shore of large islands where the rear line of the location does not extend to the centre of the island, a road allowance of 66 feet in width may be reserved between locations to afford

access to the interior of the island, where deemed necessary or expedient, or along the shore thereof. When an application is accepted by the Department for an island already surveyed, or for part of a township lot which can properly be described or designated without a survey, the applicants shall pay into the Department the purchase price in full on or before the expiration of fifteen days from the date of the acceptance, in default of which the application may be treated as having lapsed. When a survey is required, thirty days will be allowed for the filing of the same where the application is made between the first day of May and the first day of November following, and six weeks where the application is made between the first day of November and the first day of May following, provided the approximate amount of the purchase price has been paid on or before the expiration of fifteen days as above; in default of the payment or filing of the survey as above the application may be treated as having lapsed. No survey of any summer resort, either island or mainland, shall be made until after the application has been accepted by the Department, and permission to make said survey given. Where the Government has surveyed the islands an extra charge to cover the cost is made. In other cases the applicant is required to procure the survey at his own expense.

The pine timber is reserved, otherwise the sale is unconditional, excepting in the case of the islands in St. Joseph's Channel of Lake Huron, where a purchaser is required to build a house of the value of at least \$200 within one year, and islands in the Georgian Bay, where a purchaser is required to expend not less than \$300, within eighteen months of the date of sale, in building or other improvements. The islands in Lake Timagami and sites in Algouquin Park are leased under special Regulations.

Application for purchase or for any information should be made direct to the Department of Lands and Forests, Toronto, Ontario.

Timber Agents

Bremner, G.	Cochrane.....	Part Timiskaming and Algoma Dists.
Christie, W. P.	Parry Sound....	Part Parry Sound and Muskoka Dists.
Darby, E. J.	Ottawa.....	Part Ottawa District.
Hawkins, S. J.	Webbwood.....	Part Algoma and Sudbury Districts.
Henderson, C.	Sudbury.....	do do
Huckson, A. H.	Sault Ste. Marie.	Part District of Algoma.
Whelan, P. J. (actg.).	Arnprior.....	Part Ottawa and Parry Sound Dists.
MacDonald, S. C. ...	New Liskeard...	Part Timiskaming District.
Margach, W.	Kenora.....	Kenora District.
McDonald, H.	Thessalon.....	Part District of Algoma.
McDougall, J. T.	North Bay.....	Nipissing and Part Sudbury District.
Oliver, J. A.	Port Arthur....	Thunder Bay District.
Stevenson, A.	Peterborough....	Belleville.
Jones, W. M.	Fort Frances....	Rainy River District.
Wood, W. G. A.	South Porcupine.	Porcupine District.

GENERAL INFORMATION

Must be British Subjects

No patent for a farming location, either Free Grant or Sale, will be issued until and unless the settler has become a British subject.

Timber Rights

Some of the lands now open for sale and Free Grant location are *subject to timber license*, which authorizes the holder of the license to cut pine and other kinds of timber. After a lot has been regularly located or sold, however, it drops from the license all kinds of timber except pine, but the purchaser has the right to cut and use such pine trees as may be necessary for building or fencing on his land, and may also cut and dispose of all trees that he requires to remove in the actual process of clearing the land for cultivation. The pine trees so cut and disposed of (except for the necessary building and fencing aforesaid) are subject to the ordinary timber dues. Although the timber other than pine is dropped from timber license, after the sale of the land is carried out, the purchaser is not entitled to cut and dispose of any kind of timber except as hereinbefore provided, until he has gone into actual *bona fide* residence on the land, resided thereon continuously for six months, built a habitable house 16 x 20 feet, and cleared and put under cultivation two acres at least.

Where lands are held by proxy five acres at least must be cleared and cultivated to enable the purchaser to so dispose of the timber.

In many of the townships in the Clay Belt, opened for sale after 14th April, 1908, the purchaser becomes the owner of the pine timber as soon as he has erected the necessary house, resided on the land for six months and cleared and put under cultivation at least six acres, and is then entitled to sell or dispose of pine timber and all other kinds free of dues.

At the expiry of three years from the date of sale, and upon payment in full of the purchase money and interest and proof of the completion of the settlement duties required by the regulations, the purchaser is entitled to a patent for his land, and to the pine timber after the expiry of the current license year, which is 30th April.

Lands which are thus open for sale are in the districts of Nipissing, Sudbury, Algoma, Thunder Bay, Rainy River, Kenora and Timiskaming.

Minerals

In all sales actually carried out prior to the 4th May, 1891; in all grants of land made under old Statutes or Regulations containing reservations of the mines and minerals; and in all grants issued prior to the 6th May, 1913, of lands which were sold subsequent to the 4th May, 1891, with a reservation of the mines and minerals, the reservations are rescinded and void, and the mines and minerals belong to the owner of the soil, unless they had already been staked out, recorded, leased or granted under the Mining Act of Ontario.

Mining Lands

All unsold or unlocated Crown Lands in the Province, except such as are specially reserved by Order-in-Council or otherwise, are open for prospecting, staking and recording for minerals under the Mining Act of Ontario and amendments thereto. Applications for claims lying within Mining Divisions are made to the Mining Recorder of the Division in which the land is

situated, and in territory outside of separate Divisions to the Minister of Lands and Forests, Parliament Buildings, Toronto.

Minerals Included in Settlers' Patents

All locations and sales of land regularly opened for settlement and not staked out and recorded under the Mining Act are deemed to include the mines and minerals, but the mines and minerals shall not become the property of the settler until all settlement conditions have been met and patent has issued. In the interval elapsing between a sale or location and the issue of patent the mines or minerals are not subject to staking or recording.

List of Mining Divisions and Recorders

Mining Division.	Name of Recorder.	P.O. Address.
Kenora	W. L. Spry	Kenora, Ont.
Larder Lake and Swastika.	J. A. Hough	Matheson, Ont., and Swastika, Ont.
Montreal River	Mark R. Morgan	Elk Lake, Ont.
Parry Sound	H. F. McQuire	Parry Sound, Ont.
Porcupine	G. H. Gauthier	South Porcupine, Ont.
Port Arthur	J. W. Morgan	Port Arthur, Ont.
Sault Ste. Marie	W. N. Miller	Sault Ste. Marie, Ont.
Sudbury	C. A. Campbell	Sudbury, Ont.
Timiskaming and Coleman.	N. J. McAulay	Haileybury, Ont.
Kowkash	Mark Morgan	Tashota, Ont.

The Crown reserves the right to construct on any land located or sold, any Colonization Road, or deviation from the Government allowance for road; and to take from such land, without compensation, any timber, gravel or material required for the construction or improvement of any such road.

In all mining claims and dispositions of lands the Crown has the right to reserve any water power or privilege and such area of land in connection therewith as may be deemed necessary for the development and utilization of such water power, which may under certain terms and conditions be leased.

Holders of timber licenses, their servants and agents, shall have the right to haul their timber or logs over the uncleared portion of any land located as a Free Grant, or sold under the Regulations, and to make such roads thereon as may be necessary for that purpose, doing no unnecessary damage, and to use all slides, portages, roads or other works previously constructed or existing on any land so located or sold.

Taxes

Lands located or sold under the Public Lands Act or the regulations made thereunder, are liable to taxation from the date of such location or sale, and where taxes assessed on such land are in arrears for three years, the interest of the locatee or purchaser may be sold in the manner prescribed by law.

Patents

All patents of land in Judicial Districts are under the Lands Titles Act and are sent to the Local Master of Titles for the District in which the land is situate.

The names and addresses of the Local Masters are:

District.	Local Master of Titles.	Address.
Kenora	C. W. Chadwick	Kenora, Ont.
Fort Frances	W. J. Keating	Fort Frances, Ont.
Port Arthur	John M. Munro	Port Arthur, Ont.
Sault Ste. Marie	Val McNamara	Sault Ste. Marie, Ont.
Sudbury	Stephen Fournier	Sudbury, Ont.
North Bay	J. M. Deacon	North Bay, Ont.
Haileybury	W. H. Lewis	Haileybury, Ont.
Gore Bay	W. R. Abrey	Gore Bay, Ont.
Bracebridge	J. E. Lount	Bracebridge, Ont.
Parry Sound	W. L. Haight	Parry Sound, Ont.



An Ontario Sheep Ranch.

Ranching Regulations

Large areas of somewhat rocky and burnt over timber lands are at the disposal of ranchers at a nominal price an acre per annum. A lessee is required to put on and maintain each year a certain number of head of stock according to the capabilities of the land and its transportation facilities. The success of some energetic stock raisers in using Crown Lands for grazing purposes indicates a future growth of immense proportion for the industry. High rocky ridges with meadows between, abundance of water and natural fencing, and the ability to annually renew the wild marsh hay render possible good openings for even the small capitalists who desire to advance SHEEP and CATTLE raising.

To afford the lessee a reasonable opportunity of encouraging his progress and testing the maximum resources of the area, the stocking conditions are not based upon an arbitrary or uniform standard because of the varied

features and capabilities of the open areas. An ascending scale in the stocking requirement is generally followed, a minimum number of cattle or sheep or both being called for the first year, and this number annually increasing for a period of five years or so when a maximum number reached, must be maintained each and every year thereafter during the existence of the lease, which may run up to 21 years.

Loans to Settlers

Under an Act of the Legislature, authority is given to make loans to settlers in the Northern and Northwestern Districts of Ontario.

The maximum amount of any loan to be made to a settler is placed at \$500.00, with interest at six per cent. per annum, upon such terms and conditions as the Loan Commissioner may think proper.

Any loan made is registered against the lands; in the case of unpatented lands, in the Department of Lands and Forests; and in the case of patented lands, in the proper Registry or Land Titles Office, and constitutes a lien against the land.

Settlers desiring to secure a loan should call upon the Crown Lands Agent for the District in which they are located, where an application form can be filled out giving details as to location of lot, the amount of loan required, the period of years over which it is desired to have the loan, and the proposed terms of repayment; the interest being paid annually. Full information has to be given as to the purpose for which the loan is required, as the intention of the Government in providing a loan is to assist the legitimate settler in making further improvements in the way of erecting buildings, purchase of live stock and farm implements, the clearing of land, etc., and one of the conditions governing the disbursement of any loans advanced is that the money must be expended for the specific purpose set out in the application, except the consent of the Loan Commissioner, in writing, has first been obtained, covering any change in proposed expenditure.

In addition to the above the application form provides for detailed information regarding the number of acres of land cultivated, number of acres ready for cultivation, number of acres chopped or burnt, total number of acres of arable land, number of acres standing timber, class or kind of timber, and as to dimensions and material of buildings on the lot, and also as to the amount of live stock and farm implements on hand.

The Department is anxious that all *bona fide* settlers will take full advantage of the opportunity provided to secure any needed loan, and full information with respect to same may be secured on application to the various Crown Lands Agents, or direct from the Settlers' Loan Commissioner, Parliament Buildings, Toronto, Ont.

Land Guides

Settlers looking for locations will be furnished Land Guides free of charge by making application to the Crown Land Agents.

Squatting

Taking possession of Crown Lands without proper authority, or what is generally known as "squatting," is illegal, and any person found guilty of such unauthorized act may be prosecuted and ejected from the land.

AGENCIES FOR SALE TOWNSHIPS*

District of Timiskaming

New Liskeard. Agent, J. W. Bolger

This Agency contains eighteen townships, situated north and west of Lake Timiskaming. It is reached by the Timiskaming and Northern Ontario Railway from North Bay.

Armstrong	Cane	Henwood
Auld (part)	Casey	Hilliard
Beauchamp	Dymond	Hudson
Brethour	Firstbrook	Kerns
Bucke	Harley	Lundy (part)
Bryce	Harris	Tudhope

Lorrain. Applications should be made to N. J. McAulay, Haileybury.

Englehart. Agent, Joseph Woolings

This Agency contains nineteen townships, situated north of the New Liskeard Agency. The agent resides at Englehart, in the Township of Evanturel. Englehart is a station on the Timiskaming and Northern Ontario Railway, about 25 miles north of New Liskeard.

Blain	Evanturel	Pacaud
Burt	Gross	Pense
Catharine	Ingram	Robillard
Chamberlain	Marquis	Savard
Dack	Marter	Sharpe
Davidson	Otto	Truax
Eby		

Smyth (part). Applications should be made to Mark R. Morgan, Elk Lake, Acting Mining Recorder.

Matheson. Agent, F. E. Ginn

This Agency contains nineteen townships, situated north of the height of land about eighty-seven miles from New Liskeard.

Beatty	Currie	McCart
Benoit	Dundonald (part)	Mountjoy
Bond	Evelyn (part)	Playfair (part)
Bowman	German	Stock
Calvert (part)	Hislop	Taylor
Carr	Matheson	Walker
Clergue		

Cochrane. Agent, S. J. Dempsay

This Agency contains fourteen townships near the town of Cochrane, at the junction of the T. & N. O. and Canadian National Railways (N. Trans. Rly.).

Blount	Fauquier	Lamarche
Brower	Fournier	Leitch
Calder	Fox	Newmarket
Clute	Glackmeyer	Pyne
Colquhoun	Kennedy (part)	

Calder and Fournier are open exclusively as Free Grants for Returned Soldiers.

* For Names of Free Grant Townships see the Districts under the general heading, "Agencies for Free Grants."

District of Nipissing**North Bay. Agent, W. J. Parsons**

This Agency contains five townships, four Free Grant and one sale.
Widdifield

Markstay. Agent, Jno. Brown

This Agency is situated in the Township of Hagar on the line of the C. P. Ry., and contains nine townships, six of which are in the District of Sudbury and three in Nipissing. Two of the latter are open for sale and the other townships are Free Grant.

Hugel

Loudon

District of Sudbury**Sudbury. Agent, James K. MacLennan**

Sudbury is a station on the C. P. Ry. and C. Nat. Ry. There are eleven townships now on the market; nine are Free Grant and two are open for sale.

Dowling (part)

McKim

Massey Station. Agent, R. A. Teasdale

This Agency is situated in the Township of Salter, on the Sault branch of the C. P. Ry., and contains six sale townships.

Hallam
HarrowMay
SalterShedden
Victoria**Espanola Station. Agent, Edward Arthurs**

This Agency contains only three townships, two of which are Free Grant and one is open for sale.

Nairn

Sturgeon Falls. Agent, J. A. Philion

This Agency contains eight townships, situated along or convenient to the line of the C. P. Ry.—west of North Bay. Six of the townships are Free Grant and two are open for sale.

Mason (part)

Scollard (part)

District of Algoma**Thessalon. Agent, Thomas Dodds**

Thessalon is a village situated on the Sault branch of the C. P. Ry. There are sixteen townships in this Agency, thirteen of which are open for sale.

Bright

Johnson

Striker

Day

Kirkwood

Tarbutt

Gladstone

Parkinson

Thompson

Gould (part)

Patton

Wells

Haughton

Rose

Sault Ste. Marie. Agent, Edward Noble

This Agency is situated on the line of the C. P. Ry., and contains four townships, one of which is open for sale.

Aweres (East half)

Hearst. Agent, Thomas V. Anderson

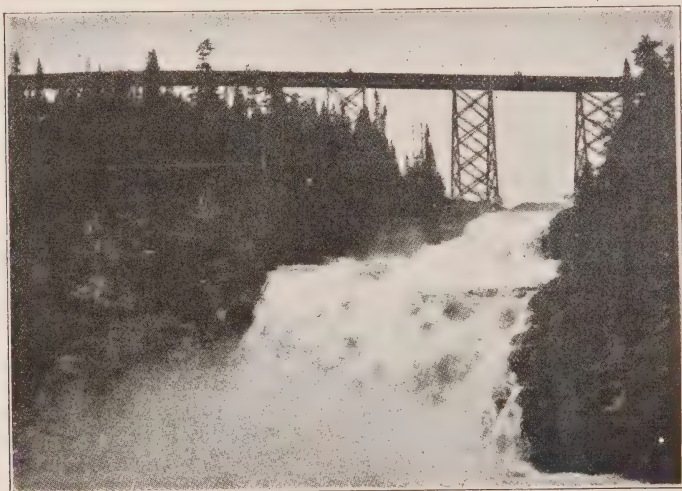
Situated on the N. T. Ry., about 140 miles west of Cochrane, the Agency contains five townships.

Casgrain
Kendall

Hanlan
Eilber.

Lowther

Kendall and Eilber are open exclusively as Free Grants for Returned Soldiers.



Montreal River Bridge, Algoma Central Railway.

District of Rainy River

Fort Frances. Agent, C. J. Hollands

There are three townships in this Agency, and they are crossed by the line of the Canadian National Railway (South), which runs from Port Arthur west.

Farrington

Halkirk

Watten

District of Thunder Bay

Port Arthur. Agent, W. A. Burrows

This Agency contains twenty Free Grant townships and three that are open for sale.

Lyon (part)

Forbes

Nipigon

District of Kenora

Kenora. Agent, W. L. Spry

Kenora is situated on the Canadian Pacific Railway at the head of Lake of the Woods. There are two Free Grant townships and one open for sale.

Drayton (part)

AGENCIES FOR FREE GRANTS*

District of Muskoka

Bracebridge. Agent, J. B. Brown

This Agency contains twenty-two townships. It may be reached by the Canadian National (South), Grand Trunk and Canadian Pacific Railways. Bracebridge, the seat of the Crown Lands Agency, is about 122 miles north of Toronto, is the chief town of the District, and has also the Judicial, Registrar's and Sheriff's offices.

Baxter
Brunel
Cardwell
Chaffey
Draper
Franklin
Freeman (part)
Macaulay

Medora
Monck
Morrison
Muskoka
McLean
Oakley
Ridout

Ryde
Sinclair
Sherbourne
Stephenson
Stisted
Watt
Wood

* For Names of Sale townships see the Districts under the general heading "Agencies for Sale Townships."



Deer hunters, Atic Lake, Muskoka.

District of Parry Sound

Parry Sound. Agent, Miss I. M. Campbell

This Agency contains fifteen townships in the south-western part of the District. It may be reached by the Canadian National (South), Grand Trunk and Canadian Pacific Railways. Parry Sound contains the offices of the Stipendiary Magistrate, Sheriff, Local Master of the District and the Mining Recorder.

Burpee
Carling
Christie
Conger
Ferguson

Foley
Hagerman
Henvey
Humphrey
McConkey

McKellar
McDougall
MacKenzie
Monteith
Wilson

Magnetawan. Agent, Dr. J. S. Freeborn, Magnetawan.

This Agency contains eleven townships, in the centre of the north-west part of the District of Parry Sound. Magnetawan is situated on the Rosseau and Nipissing Road in the Township of Chapman, 14 miles from Burk's Falls, a station on the Grand Trunk Railway. A steamer runs from Burk's Falls to Magnetawan in summer, and a stage in the winter.

Chapman
Croft
Ferrie
Gurd

Lount
Machar
Mills
Pringle

Ryerson
Strong
Spence

Emsdale. Agent, David Thaw

This Agency contains six townships, in the south-eastern part of the District. Emsdale, in the Township of Perry, is a station on the Grand Trunk Railway, which runs through the townships of Perry and Armour. A branch also runs through the townships of Bethune and Perry, and connects with the main line at Scotia Junction.

Armour
Bethune

Perry
Joly

Proudfoot
McMurrich

Powassan. Agent, H. J. Ellis

This Agency comprises five townships, south of Lake Nipissing, and in the north-east part of the District of Parry Sound. The route from Toronto is by the Grand Trunk Railway to Powassan.

Hardy
Himsworth

Laurier
Nipissing

Patterson

District of Nipissing

North Bay. Agent, W. J. Parsons

There are five townships in this Agency. One is open for sale and four are Free Grant.

Bonfield
Boulter (part)

Chisholm

Ferris

There are four townships in the District of Nipissing that are not attached to any Agency. They are Free Grant townships.

Airy
Finlayson

Murchison

Sabine

Mattawa: Agent, Robt. Small

This Agency contains four townships, three of which are traversed by the Canadian Pacific Railway. The route from the south is by the Grand Trunk Railway, and from the east by the Canadian Pacific.

Calvin	Lauder (part)	Papineau
Cameron (part)		

Sturgeon Falls. Agent, J. A. Philion

There are eight townships in this Agency. The two Sale townships and two of the Free Grant are in the District of Sudbury, and the other four Free Grant are in Nipissing District.

Caldwell	McPherson	Springer
Grant		

Markstay. Agent, John Brown

This Agency is situated in the Township of Hagar, on the line of the Canadian Pacific Railway and contains nine townships, two of which are Sale and seven Free Grant. Six of the Free Grant townships are in the District of Sudbury and one in Nipissing.

Kirkpatrick

District of Sudbury

Markstay. Agent, John Brown

There are nine townships in this Agency; seven are Free Grant and two are open for Sale. One of the Free Grant townships is in the District of Nipissing and six are in the Sudbury District.

Appelby	Dunnet	Jennings
Casimir	Hagar	Ratter

Sturgeon Falls. Agent, J. A. Philion

There are only two Free Grant townships in this Agency that are in the District of Sudbury, the others being in the District of Nipissing.

Cosby	Martland
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Sudbury. Agent, James K. MacLennan

This Agency is situated on the C. P. R. and C. Nat. R. (south). There are two townships open for Sale and nine are Free Grant.

Balfour	Capreol	Lumsden (part)
Blezard	Garson	Morgan (part)
Chapleau	Hanmer	Rayside (part)

Espanola Station. Agent, Edward Arthurs

This Agency contains one Sale township and two Free Grant.

Merritt (part)	Baldwin (Cons. 1 and 2)
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District of Algoma

Thessalon. Agent, Thos. Dodds

This Agency contains sixteen townships, thirteen of which are open for Sale and three are Free Grant.

Aberdeen

Galbraith

Lefroy

St. Joseph's Island. Agent, Wm. E. Whybourne, Marksville

This island is situated at the west end of Lake Huron. It contains nearly 86,000 acres, a large portion of which is good agricultural land. It may be reached by steamers from Collingwood or Owen Sound in summer, and in winter by the Canadian Pacific Railway. The island has been divided into three municipalities.

St. Joseph

Hilton

Jocelyn

Sault Ste. Marie. Agent, Edward Noble

There are three Free Grant townships and one Sale township in this Agency.

Korah

Parke

Prince

District of Thunder Bay

Port Arthur. Agent, W. A. Burrows

This Agency contains twenty-three townships in the vicinity of Port Arthur, and is reached either by steamer from Collingwood or Owen Sound, C. P. R. or C. Nat. R. (C. N. R.). Three of the townships are open for Sale, and twenty are Free Grant.

Blake
Conmee
Crooks
Dawson Road
Dorion
Gillies
Gorham
Lybster

Marks
McIntyre
McGregor
O'Connor
Oliver
Paipoonge
(N. & S. Div.)

Pardee
Pearson
Scoble
Strange
Stirling
Ware

District of Kenora

Dryden. Agent, J. E. Gibson

This Agency is situated on the line of the C. P. Railway, in the Township of Van Horne, and contains fifteen townships.

Aubrey
Eton
Rugby
Langton
Mutrie
Sanford

Temple
Southworth
Van Horne
Britton
Wabigoon

Wainwright
Zealand
Melgund
Rowell
Redvers (part)

Kenora. Agent, W. L. Spry

Kenora is situated on the Canadian Pacific Railway at the head of Lake of the Woods. There are two townships open for location and one for Sale.

Melick

Pellatt

District of Rainy River

There are thirty-six townships open for location as Free Grants along the Rainy River, and two agents in charge.

These townships may be reached by the (South) Canadian National Railway from Port Arthur.

Stratton. Agent, Wm. Cameron

Stratton is in the Township of Morley. There are nineteen townships in this Agency, running from the westerly end of the river.

Atwood
Blue
Curran
Dewart
Dilke
Morley
Morson

McCrosson.
Nelles
Pattullo
Pratt
Roseberry
Shenston

Spohn
Sutherland
Sifton
Tait
Tovell
Worthington

Emo. Agent, Alexander McFayden

Emo is in the Township of Lash. There are seventeen townships in this Agency towards the easterly end of the river.

Aylesworth
Barwick
Burris
Carpenter
Crozier
Dance

Devlin
Dobie
Fleming
Kingsford
Lash
Mather

Miscampbell
Potts
Roddick
Richardson
Woodyatt

Provisional County of Haliburton

Minden. Agent, Richard H. Baker

This Agency contains seven townships in the Provisional County of Haliburton. The Victoria Branch of the Grand Trunk Railway runs through the Township of Snowdon, and the Irondale and Bancroft Railway through Snowdon and Glamorgan. The route to the Agency is by the Grand Trunk Railway to Gelert Station, and thence by stage to Minden Village—a distance of about 12 miles.

Anson
Glamorgan
Hindon

Lutterworth
Minden

Snowdon
Stanhope

There is one Free Grant township open in this county that is not attached to any Agency.

McClintock

Kinmount. Agent, A. N. Wilson

This Agency contains four townships; two are in the County of Peterborough and two in the Provisional County of Haliburton.

Cardiff

Monmouth

County of Peterborough

Kinmount. Agent, A. N. Wilson

Cavendish.

Galway.



Deer hunting, Muskoka.



Hooked.



Trapping.

Apsley. Agent, Wm. Hales

This Agency contains four townships in the north part of the County of Peterborough.

Anstruther	Chandos	Methuen
Burleigh (North and South)		

North Hastings

Maynooth. Agent, Wm. J. Douglas

This Agency contains twelve townships. They may be reached by the Grand Trunk Railway.

Carlow	Herschel	Wollaston
Cashel	Limerick	McClure
Dungannon	Mayo	Bangor
Faraday	Monteagle	Wicklow

Frontenac and Addington

Denbigh. Agent, Charles Both

This Agency contains seven townships. The route is by the Canadian Pacific Railway.

Abinger	Canonto, South	Denbigh
Clarendon	Canonto, North	Palmerston.
Miller		

North Renfrew

Pembroke. Agent, F. Watt

This Agency contains eleven townships, which are traversed by the Canadian Pacific Railway. The route is from Ottawa or Brockville to Pembroke.

Algona N.	Head	Rolph
Alice	McKay	Wylie
Buchanan	Maria	Wilberforce
Fraser	Petawawa	

Centre and South Renfrew

Wilno. Agent, Adam Prince

This Agency contains fifteen townships. It may be reached by the Ottawa Division of the Grand Trunk Railway.

Algona S.	Hagarty	Radcliffe
Brougham	Jones	Raglan
Brudenell	Lyell	Richards
Grattan	Lyndoch	Sebastopol
Griffith	Matawatchan	Sherwood

New Townships

New townships will be surveyed and opened for settlement in different parts from time to time as required, but it is important in the interests of the settlers, as well as the Province, to concentrate the settlement as much as possible, so that roads may be constructed, churches and schools established, and other conveniences placed within the reach of the settlers that would not be possible where settlements are sparse, and consequently squatting in townships not opened for settlement will not be encouraged.



HON. WALTER RITCHIE ROLLO
Minister of Labour and Health, Ontario

DEPARTMENT OF LABOUR

In 1916 the ever-increasing importance of matters pertaining to labour resulted in the creation of a section of the Ontario Government designated the Trades and Labour Branch. After two years' operations this branch was reorganized and became the Department of Labour.

The Department of Labour administers the following statutes: Stationary and Hoisting Engineers' Act; The Building Trades Protection Act; The Factory, Shop and Office Building Act; The Steam Boiler Act; The Employment Agencies' Act.

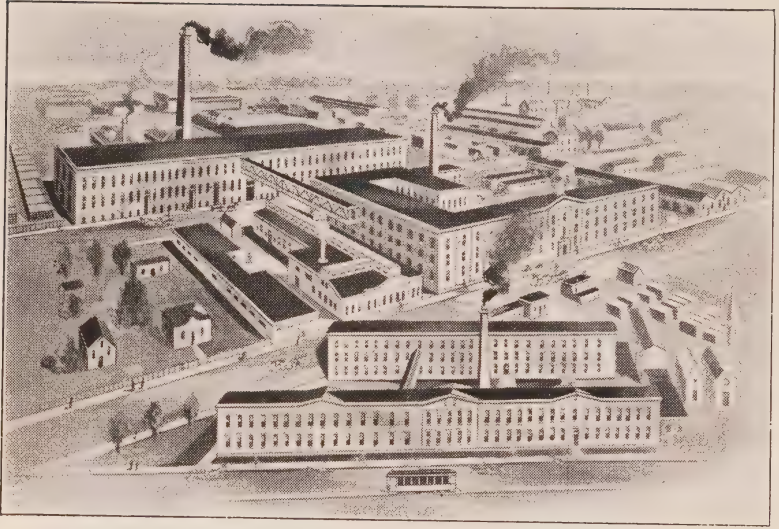
In addition, the Department is responsible for investigation and research into matters pertaining to the general welfare of the industrial workers of the Province. A separate staff is provided for the carrying out of each of the above Acts, and the Department is equipped to protect the interests of the workers.

The extent of the work carried on by the Board of Stationary and Hoisting Engineers is shown by the fact that over 10,000 certificates were issued to Stationary and Hoisting Engineers during the fiscal year ending October 31st, 1919. Examinations are held throughout the Province from time to time, at which those interested may present themselves to qualify for the papers which permit them to operate stationary and hoisting engines in Ontario.

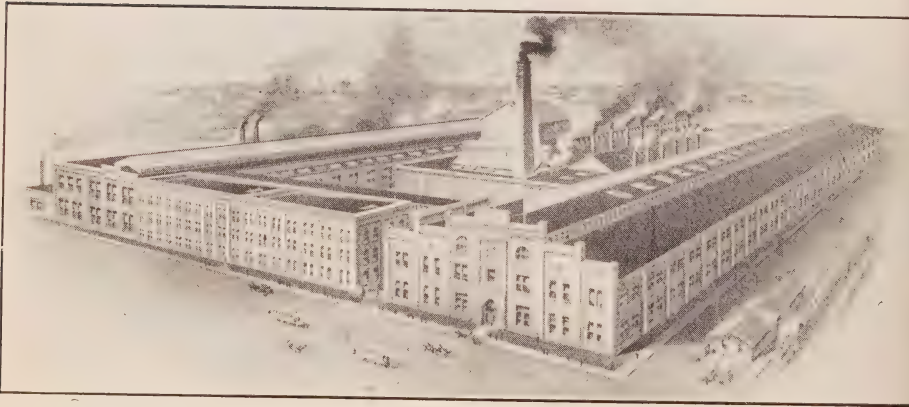
Provision is made under the Building Trades' Protection Act for the appointment of inspectors in the various municipalities, to safeguard the lives of workers engaged in the various kinds of construction work.

The Chief Inspector of Factories, Shops and Office Buildings is assisted by a staff of inspectors in all parts of the Province, who make regular visits to the industrial plants in their respective districts, and whose duty it is to enforce the provisions of the Factory, Shop and Office Building Act. Questions affecting the health and safety of factory and office workers are dealt with by this Branch of the Department of Labour, and, in the course of their duties, inspectors made over 10,000 inspections in the fiscal year ending October 31st, 1919.

The Chief Inspector of Steam Boilers is responsible for the inspection of new boilers built in or for the Province, and is also



Sewing Machine Factory, Guelph.

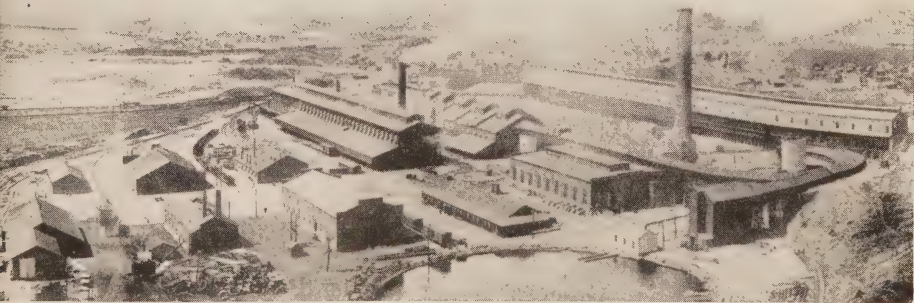


Engine Works, Brantford.

responsible for the inspection of used boilers sold or exchanged. The survey and registering of boiler drawings and specifications is also comprised in the work of this Branch.

The Ontario unit in the Employment Service of Canada performs much the same function in this Province as the British System of Employment Exchanges carries out in Great Britain. Thirty-six offices are in operation in Ontario, and are linked up by an Employment Clearance System, with 55 other offices situated in other parts of the Dominion of Canada. During the year ending October 31st, 1919, the Ontario offices referred 92,162 workers to positions, 7,867 of which were in connection with the agricultural activities of the Province. The workers who are coming to Canada through the recognized channels of British Immigration may rest assured of every assistance in finding suitable work through this system of employment offices.

The Employment Bureaus recruited 9,751 workers for farm service in 1917, 1,265 of whom were girls and young women. In 1918, 88 camps were organized, with over 3,000 National Service girls, who enlisted for work on the land. In addition, 5,696 men and boys were placed on farms by the Bureaus during the same year.



Nickel-Copper Smelter, Copper Cliff, near Sudbury.

WORKMEN'S COMPENSATION

In Ontario, workmen meeting with accidents in their employment are well looked after, the Ontario law, applying to the great majority of industries, being perhaps the most advanced and liberal of any law of the kind now in existence.

Formerly the injured workman could only recover if he could prove negligence against his employer and overcome the other technicalities and legal complications incident to an expensive lawsuit. The new law recognizes that the misfortune of a crippled workman or the needs of his widow and children are not any the less because the workman was at fault or because someone else was not at fault in causing the accident. Lawsuits and legal technicality and expense are abolished. The necessary money is collected by assessments upon employers as a whole, and the workman or his widow not left to depend upon the solvency of his particular employer.

The law is administered by a Board on a broad and common-sense basis, without resort to the courts. Its provisions are clear and simple, and settlements are expeditiously made, the money being put directly into the hands of the workman or his widow without any legal or other expense.

The injured workman receives from the time of the accident 55 per cent. of his earnings as long as he is disabled, and in case of permanent injury he receives during life 55 per cent. of his impairment, or estimated impairment, of earning capacity. All necessary medical, surgical, hospital, and skilled nursing services are provided for as long as required. In case of death by accident the workman's widow receives during life or until remarriage \$30 per month for herself and \$7.50 a month for each child under 16, but not exceeding \$60 in all, or 55 per cent. of the workman's average earnings.

Payments for serious permanent disability are made in the form of monthly pensions, and continue for life, and they are limited only by a wage basis of \$2,000 a year, which permits a maximum compensation of \$91.65 a month, or \$21.15 a week.

During the year 1919, \$4,181,932.43 was awarded for actual benefits to workmen and their dependents. This was for a total of 44,260 reported accidents in an industrial army of about 500,000 workmen who are under the protection of the Act.

PUBLIC HEALTH AND PROTECTION

PUBLIC HEALTH IN ONTARIO

This subject is in charge of the Minister of Labour and is under control of the Provincial Board of Health, comprising seven members. The Secretary is the executive officer and is known as the Chief Officer of Health. There is a Provincial Inspector, and under his supervision are seven District Officers of Health and a Sanitary Inspector. All of these officers devote their whole time to the work of public health.

The Provincial Board has control of all sanitary measures, including public water supplies and sewage disposal. None of these utilities can be established without the Board's approval, and by recent enactment the Board has mandatory powers where municipalities neglect these works.

The care of Public Health in Ontario is regarded as being thoroughly advanced.

Some of the things the Board does for the public are the following:

1. Supplies literature on all varieties of communicable diseases and other topics as follows: Diphtheria, scarlet fever, typhoid fever, measles, smallpox, consumption, venereal diseases, meningitis, influenza, infantile paralysis, flies, mosquitoes, sewage disposal, cancer, lousiness among soldiers and civilians.

2. Maintains a Child Welfare Bureau, a Public Health Tuberculosis and Child Welfare Exhibit, and supplies literature and information to mothers.

Book, "The Baby."

Pamphlet, "Prevention of Babies' Sore Eyes."

3. Maintains a laboratory at Toronto and branch laboratories at Kingston and London, which provides free diagnosis in venereal diseases, typhoid fever, diphtheria and tuberculosis. Makes free tests in water supplies, sewage and milk.

4. Maintains an experimental station for the investigation of water purification and sewage disposal works.

5. Supervises the plans of public water supplies and sewage disposal plants.

6. Supplies free to the public, diptheria antitoxin, tetanus antitoxin, anti-meningitis serum, smallpox vaccine, typhoid and paratyphoid vaccine, influenza vaccine, pertussis vaccine, preventive treatment for babies' sore eyes and Pasteur preventive treatment for rabies.

GENERAL HOSPITALS AND CHARITIES

Ontario is well provided with general hospitals and charitable institutions. There are eighty-seven general hospitals, eleven sanatoria, forty-three refuges for old people, and twenty-nine orphanages for children, all of which minister to the needs of the suffering and infirm. The increased cost of all staple articles used in hospitals has been met by increased Government grants equal to about 50 per cent.

The General Hospital, Toronto, opened in June, 1913, is one of the world's finest institutions. It has accommodation for 731 beds, and provides for a daily capacity of about 600 in the out-patient's department. The cost of the building and equipment is about \$3,750,000.

The Institutions of the National Sanitarium Association and allied Institutions of the Toronto Free Hospital for Consumptives are: (1) The Muskoka Cottage Sanatorium, and (2) the Muskoka Free Hospital for Consumptives, at Muskoka; (3) the Toronto Free Hospital for Consumptives; (4) the King Edward Sanatorium, and (5) the Queen Mary Hospital for Consumptive Children, at Weston. As devoted wholly to tuberculosis the first and second are pioneer Canadian institutions, the third is the first hospital in the world for purely advanced cases, and the fifth is the first separate hospital for children. Their total accommodation at present is 800 beds. There is paid out annually for maintenance \$600,000.

The Hospital for Sick Children was founded 43 years ago by



General Hospital, Toronto (covering $10\frac{1}{2}$ acres).



Queen Mary Hospital for Consumptive Children, Weston.

the late John Ross Robertson, upon trust and the generosity of the people of Ontario. It is equal to any hospital of the kind in the world, and its founder was its greatest individual benefactor. In 1875 there were 44 in-patients and 67 out-patients. In 1919 there were 5,065 in-patients and 36,697 out-patients. The Toronto Board of Education maintains a teacher in the hospital, and the school provides for both mental and physical development. The hospital maintains Orthopedic and X-Ray Departments. Other departments include Infant Welfare and Baby Medical Ward, massage, gymnasium, pure milk and laundry.

PROTECTION OF CHILDREN

The Province of Ontario has always taken a foremost place in the care and protection of Neglected and Dependent Children.

Over twenty-five years ago the Ontario Legislature enacted a Children's Protection Act that has since been copied by all the other provinces, by many of the adjoining states and, in some of its important features, by Great Britain and foreign countries. In fact it paved the way for the large and ever-increasing interest now being taken in social and child welfare. Children's Aid Societies are organized in the various cities and counties. Over 15,000 children have been placed in foster homes in the past twenty-five years, and in addition to the direct benefit conferred upon the children, the public funds have been saved to the extent of at least one and a half million dollars in the lessened expense for the maintenance of this class. The chief objects of the society are: The betterment of children in their own homes; their removal when necessary to ensure a chance of becoming good citizens; an endeavour to assist every child to receive fair treatment, wholesome surroundings, and good moral influences; the finding of eligible foster homes for all children made wards of the Society; careful supervision without undue interference after being placed in foster homes; receiving and enquiring into complaints of neglect or ill treatment of children.

The head office of the organization is at 153 University Avenue, and any citizen requiring special information may obtain the same by addressing the General Superintendent.

HOSPITALS FOR INSANE

The Province has ten hospitals for its insane, feeble-minded, and epileptic population. These are located at Brockville, Kingston, Hamilton, Whitby, Toronto, Mimico, London, Woodstock, Orillia and Penetanguishene. Provision is made for accommodating about seven thousand inmates. The most modern methods are in use for the restoration of normal conditions, and large farms are attached to each hospital, which serve the purpose of supplying work for those who are able to do anything, as well as providing farm products at first cost.

PENAL INSTITUTIONS

The Penal systems of the Province comprise a central institution at Guelph, known as the "Reformatory for Ontario," with a branch at Mimico, operated as an industrial clay plant. There are also industrial farms at Burwash, Fort William, and in York County. In Toronto there is a Reformatory for Females, who are employed at useful occupations.

After the outbreak of the war an arrangement was made by which the Guelph Reformatory was used as a Vocational Training Institute for Disabled Soldiers, but the industrial farms have given employment, as well as provided an opportunity for taking care of all inmates and allowing them to work and live amid natural conditions.



Field of Oats.

SUMMER RESORTS

In natural beauty and variety, Ontario is replete with attractions. The magnificent playgrounds of the "Highlands of Ontario" are filled during the summer season with tens of thousands of people from all over the American continent. The city of Toronto is the objective point for nearly all of these attractive resorts, chief among which are the Kawartha Lakes, Lake Couchiching, Muskoka Lakes and the 30,000 islands of Georgian Bay, Lake of Bays,



The Prince of Wales at Cameron's Falls, Nipigon River.

Magnetawan River, Lake Nipissing, the French and Pickerel Rivers, Bala Falls, Algonquin National Park, and the Timagami and Timiskaming regions of Northern Ontario. Then there is in the north-east the delightful scenery of the Rideau River and the River St. Lawrence, and in the south the world-famous Niagara Falls. The Grand Trunk, the Canadian Pacific, the Canadian National, and the Timiskaming and Northern Ontario Railways and steamboat companies give excellent service. There are many other near beautiful scenes, and far distant picturesque parts, such



Virgin Falls, Nipigon River, where the Prince of Wales began fishing,
September, 1919.

Do I love the northern border? pine trees wavin' in the air,
Rocks piled up in rough disorder, birds asingin' everywhere;
Deer aplayin' in their gladness, moose afeedin' in the glen—
Not a trace of pain or sadness campin' on the trail o' men—
Streams o' crystal clearness flowin' o'er the rocks an' lovely flowers,
In their tinted beauty growin' in that borderland of ours.

Fairer picture the Creator
Never threw on earthly screen,
Than this lovely home of Natur'
Whar' the hand o' God is seen.

as in Manitoulin Island, and in the Districts of Rainy River and Kenora, embracing Lake of the Woods with many thousand islands. The following editorial deals with the subject attractively:

Mr. Francis Grierson, who is staying in Toronto at present, and whose long residence in the great capitals of Europe and other famous cities renders him a competent judge, declares that Toronto is the most beautiful residence city he has seen. He has driven through mile after mile of the homes of Ontario's capital, embowered with trees, which to him are an amazing sight. Occasional streets in European cities have trees or occasional trees, but nowhere has he seen in a city of this size such arboraceous wealth and variety. The city suburbs and residence districts are a revelation of tasteful and comfortable homes; the Beaches, Parkdale, Rosedale, High Park, the Annex, the Hill, North Toronto, wherever one may be disposed to go, there are charm and change and challenge to comparison.

In this respect Toronto fairly represents the province of which she is the chief city. Ontario is one of the lovely countries of the world. The legends of beauty in older lands are largely the result of ancient memories and associations and the work of literary men, poets and artists. A hundredth part of the discrimination and judgment lavished on Europe—even on Great Britain and Ireland—would prove Ontario to be supreme in beauty as she is in natural wealth.

Just now Toronto is crowded with returning tourists from east and west and north. They have come from the great heart of United States summers to bathe themselves in the crystal and ether of Ontario. Our wonderful northern lakes and rivers hold out all the attractions and allurements of Eden, and Americans are no longer afraid of either apples or snakes. We have the finest apples and the most harmless snakes in the world. Our forests and our streams offer the sportsman, the naturalist or the dreamer unsurpassed facilities for the virginal life of primitive nature.

The settled haunts, about which tourists are passing the Masonic signal to each other all over the world, are every year alluring greater and more appreciative numbers. But Ontario will not be crowded in this century. With an area as great as France and Germany combined, only the population of Paris yet occupies this great inheritance "by Blue Ontario's shore."

Ontario is the natural play place, camping ground and holiday resort of America. Those who come once return year after year, and United States fiction begins to tell about the romantic things that happen up by Timagami and Timiskaming. And in less frequented places, up the Montreal River by Elk Lake; on the upper reaches of the Ottawa; or in the fascinating fastnesses of Hastings County; by the picturesque majesty of the great rock dedicated to "Old Walt" at Bon Echo; in the island-studded lakes of Muskoka or the verdures of Georgian Bay; along the noble shores of Ontario herself in the old-time loveableness of Cobourg, or the quaintness of Trenton or Picton; by Goderich in the north, or Barrie, on Lake Simcoe; at Queens-ton on the Niagara; everything that can bless the eye or soothe the heart in perfect scenery is to be found.

The wonder of Ontario is that so few people, comparatively, have discovered it. We renew the prediction that the best of the Empire will eventually learn what a land Ontario is, and will come and help us to raise a commonwealth vaster and worthier than anything Europe has to show. We shall have the highest civilization in the most beautiful homeland on earth.—*Toronto World*, September 11, 1919.

HUNTING AND FISHING

Ontario possesses a vast portion of virgin territory, hundreds of miles east and west and extending northward to the land of eternal snows; it is largely a wild country, primeval and unexplored; an empire in itself; an immense expanse of forest, and thousands of lakes and rivers awaiting the canoe and paddle, whose waters have never been rippled by the delicate fly or the splash of the caster's bait.



Deer hunting, Muskoka.

The vast game region is now easy of access, as the Canadian Trunk lines have pushed their bands of steel into regions far beyond the ken of civilization. Within twenty-four hours' ride from Toronto, the sportsman can detrain and find himself in the very heart of the one, last unexploited big game refuge on this continent.

South of the international boundary the game and fish have been sadly depleted, the population having increased to such an extent, that hunters, fishermen and tourists, together with that ever-increasing host who believe in the elixir of the out-door life, the

invigorating ozone of the piney forests, are looking to Canada, where for generations to come they may find the fountain of youth.

The people of Ontario do not realize the wonderful heritage given to their keeping, with a vast game region where conditions are ideal for the propagation of wild animals in their own natural habitat. It is in truth a hunter's paradise, where deer, moose, caribou and bear roam as free as did their species centuries ago, where the streams and lakes are teeming with millions of the finny tribe, from the royal sturgeon of one hundred pounds in weight



Waiting a bite in Maitland River, Goderich.

to the gamey fighting black bass, speckled trout, maskinonge and the not-to-be despised pike and pickerel.

Annually, for two weeks, thousands of disciples of Nimrod say good-bye to the artificial life and its unsatisfying pleasures, to renew their youth by rugged exercise and expand their lungs with the pine-laden ozone of the wildwood, to wander along the shores of some shimmering lake or woodland stream, to watch the animal life that inhabit its banks, and when weary to sit down under some great solemn pine and listen to nature's grand oratorio.

CITIES AND TOWNS

Ontario has 23 cities, 139 towns, 149 villages, 551 townships and 38 counties, making a total of 900 organized municipalities, besides 10 districts that have no organization similar to the county councils. It has the honor of possessing the capital city of Canada. The following are the cities and the more important towns:—

SOUTHERN ONTARIO

Toronto

Toronto is the capital of Ontario and the seat of the Provincial Government. It is 334 miles from Montreal, 502 from Chicago, 546 from New York, 1,091 from Halifax, 1,236 from Winnipeg, 2,073 from Calgary, and 2,720 from Vancouver. The second city in the Dominion, with a population of 500,000, it is one of the most beautiful on the continent. It is situated on the north shore of Lake Ontario, on a slope of land gradually rising from the shore to a height of 220 feet, and it covers an area of 32 square miles. In front of the city is the harbor, a square mile in area, formed by an island on the south. On the east is the river Don, and on the west the Humber. The city possesses many tree-shaded streets, 58 public parks, elegant residences, and handsome public buildings, such as the Legislative Buildings, the University, the City Hall, the General Hospital, and the Public Library.

Toronto is the seat of a number of educational institutions—the University of Toronto, with federated colleges: University College, Victoria, Trinity, St. Michael's, Knox, Wycliffe, and with affiliated colleges: Ontario Veterinary College, Royal College of Dental Surgeons, Ontario College of Pharmacy. The city has also McMaster University, Upper Canada College, St. Andrew's College, Colleges for Ladies, Colleges of Music, Normal School, Technical and Commercial High School, and others. There are 97 public and 34 separate schools, 10 collegiates, and 2 libraries with 14 branches.

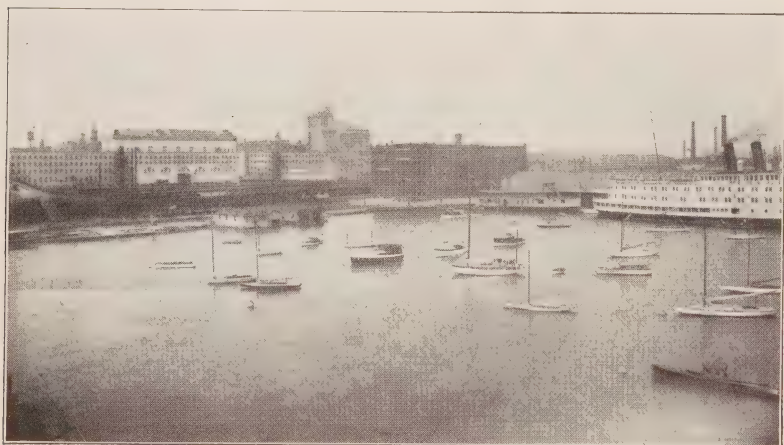
The city is represented in art by the Art Museum and the Ontario College of Art. The Historical Room of the Reference Library contains the famous J. Ross Robertson collection of engravings, prints and paintings illustrative of early life in Canada, numbering 3,715 pictures.



A section of Yonge Street, Toronto—Royal Bank (left), C.P.R. Building (centre), Bank of Hamilton (right).

There are 300 churches—Anglican, Methodist, Presbyterian, Baptist, Roman Catholic, Congregational, and various other denominations; 8 public hospitals, and many charitable institutions.

The city's industries are many and varied, including the manufacture of engines, boilers, mining and other machinery, agricultural implements; wood products, heating apparatus, carriages, motor vehicles, brick, tile, pianos, organs, jewellery, silverware, tinware, glassware, leather, clothing, carpets, confectionery, biscuits, and many other articles. A departmental retail store, cash basis, employs 16,000 hands.



Section of waterfront, Toronto.

The number of manufacturing establishments is estimated at 1,300; the capital invested, \$225,000,000; annual salaries and wages, \$55,000,000; annual value of products, \$250,000,000.

Manufacturers and others have an abundant supply of cheap electric power from Niagara Falls, and the streets are magnificently lighted at a low rate by the Hydro-Electric System.

With water communication to tide water and to half-way across the continent, and excellent railway facilities, the city is a great distributing centre. The number of arrivals and departures of vessels, respectively, in and from the harbour in 1919 was 4,233; gross tonnage, 5,247,043; registered, 3,151,562. The summer tourist traffic centering at the harbour is the greatest in Canada. In the

open season thirteen passenger steamers arrive and depart daily. The Canada Steamship Co. make the city their western terminus. Several hundred trains enter and leave the city daily. There are 533 miles of streets and 125 miles of electric street railway. The latter carried in 1919 182,377,494 passengers.

The city has the largest annual exhibition in the world, with an attendance in 1919 of close on a million and a quarter.

The total assessment of the city in 1914 was \$513,366,151, and in 1919 \$621,051,064. The inland revenue collections for 1913-14 were \$1,756,690, and for 1918-19, \$3,763,216. The custom house returns for 1913-14 were \$118,308,642, and for 1918-19, \$218,175,689. The clearing house returns for 1914 were \$2,012,955,665, for 1918, \$3,379,864,506, and for 1919, \$4,251,644,303.

An expenditure of approximately \$24,000,000 will be made in improving the city's water-front, deepening the entire harbor, and developing for industrial purposes the district of Ashbridge's Bay, which lies east of the harbor and contains about 1,000 acres.

Toronto gave more men to the Great War than any other city in Canada. And to the Victory Loans of 1917, 1918 and 1919, respectively, 128,590 of its residents subscribed \$78,132,200, 202,140 subscribed \$147,943,000, and 160,690 subscribed \$146,329,600.

Ottawa

The city of Ottawa is the capital of the Dominion, and therefore the official place of residence of the Governor-General and the seat of the Federal Government. It nestles in a forest of maples and other trees on high cliffs overlooking the Ottawa River, and commands a view of mountain, river and vale of great beauty and grandeur. The city is noted for its magnificent architecture. The Parliamentary and other Government and public buildings, and a large number of private residences, constructed of splendid native stone and brick, are elaborate and striking in design, as well as in the appointment of beautiful grounds. It is abundantly provided with playgrounds, parks, picturesque driveways, shady avenues and splendid boulevards; it is well laid out with clean permanently paved streets, and the electric street railway gives excellent service. "I find," says the editor of *Munsey's Magazine*, "that Ottawa is a centre of the highest civilization, a vital force of industry, culture,

progress, civic government and beauty. You have not only mastered the enigma of municipal government, but you have made a city so splendid in its physical aspects that it will become a model for the whole Dominion." And another American writer calls it, "Ottawa the Beautiful." The population is 107,732; including suburbs, 126,000.

Nine steam roads enter the city, and there are two water freight lines. Four great railways are: the Grand Trunk, Canadian Pacific, Canadian National, and New York Central. Several branch lines



Chaudiere Falls, Ottawa.

run into the heart of the hunting and fishing country of the Gatineau and Algonquin Park. Water lines are by the Rideau Canal to the St. Lawrence and the Great Lakes, and by the Ottawa and St. Lawrence Rivers to the Great Lakes, Montreal, and the Atlantic seaboard.

The city has 388 industries of various kinds, iron works and foundries, and large factories for the production of paper, cardboard, tents and awnings, and cement, giving employment to 11,873 persons, and paying out in annual wages \$8,938,170. It has one of the largest individual lumber factories in the Empire. The district

output in 1918 aggregated 350,000,000 feet, board measure, a decline of 80,000,000 feet from the previous year, due to the war, the scarcity of men, and the uncertainty of shipments to Europe. Vast deposits of raw material of great variety exist nearby, giving great opportunities for many industries.

Ottawa consumes about 54,000 h.p. of electric energy, most of which is generated at the Chaudiere Falls, a magnificent water power within the city limits. Within a radius of 30 miles there is undeveloped nearly 200,000 horse power for commercial purposes.

The city has excellent educational and other institutions, among them the University of Ottawa, Collegiate Institute, Technical School, Normal and Model Schools, Ottawa Ladies' College, Ashbury College for Boys, La Salle Academy for Boys, Conservatory of Music, Parliamentary Library, Government Archives, National Art Gallery, National Victoria Museum, Royal Observatory, Royal Mint, cathedrals and magnificent churches. Besides these there are three business colleges and about sixty other private colleges and schools. Other institutions are the Government Fisheries Exhibit and the Central Canadian Experimental Farm.

The Central Canada Exhibition, the Show of Motor Vehicles, and the Ottawa Winter Fair, are held here annually.

Hamilton

The city of Hamilton, population of about 110,000, is situated on the shore of Hamilton Bay, a beautiful landlocked harbor at the head of Lake Ontario. Behind the city is the mountain, or escarpment, which extends from Niagara Falls, 42 miles to the east. From this range there is a magnificent view of the city below, with its wide, well paved streets, fine residences and public buildings, and wealth of beautiful shade trees; of the clear waters of the Bay beyond; and of the "Fruit Garden of Canada" of the Niagara district," on the south-east, a picture of beauty rarely equalled on the continent. Out of this "Garden" millions of dollars' worth of fruit is shipped annually.

Hamilton has excellent facilities by both water and rail. The city is the regular port of call for all the steamship lines operating from Montreal to the head of Lake Superior. It is on the direct line of main railways running from Buffalo and Niagara Falls to



Hamilton Schools.

Detroit and Port Huron, Buffalo and Niagara Falls to Montreal and Detroit and Port Huron to Montreal. Its railway connections are Canadian Pacific; Grand Trunk; Canadian National; Toronto, Hamilton and Buffalo; New York Central; Michigan Central; Lehigh Valley and Wabash. It is also the centre of a complete electric railway system for city and suburban travel, and it is to be the hub of the Hydro Radial Electric Railway system, work on which is to be started in 1920.

Hamilton is essentially a manufacturing city, possessing all the economic conditions required by large industrial concerns for favorable operation. It has a practically unlimited supply of electric energy from large companies economically generating power from Decew Falls 35 miles, and Niagara Falls 42 miles, distant. The Hamilton Hydro-Electric department is municipally owned and sells power at cost, while the Dominion Power and Transmission Company serves manufacturers satisfactorily.

Manufacturing establishments number 450; capital invested, \$50,000,000; employees, 35,000. The city's blast furnaces, steel plants, coke oven plants, plow works, agricultural implement works, and wire fence works are among the largest in the Empire. Other industries are wood-working machinery, electrical apparatus, washing machines and wringers, hardware, silverware, clothing, hosiery, boots and shoes, furniture, etc.

The facilities for acquiring an education are good, there being 25 public schools, 13 separate schools, Normal School, Technical School, Collegiate Institute, and 10 business colleges.

Hamilton has always been free of serious labor troubles. Approximately 70 per cent. of the homes are owned by the occupants. Its growth has been so substantial that the assessment rose from \$39,836,285 in 1909 to \$93,682,840 in 10 years. It is steadily progressive and possesses many advantages as a residential and business city.

London

The city of London, in the County of Middlesex, 121 miles west of Toronto, and about the same distance from Detroit, has a population of about 58,000. It is the centre of a rich agricultural country and its market for grain, live stock, and produce is one of the

best in Ontario. The Grand Trunk and Canadian Pacific Railways' main lines pass through the city, and have connection at this point with the Wabash, Pere Marquette, and Michigan Central over the London & Port Stanley Railroad—the city owned and operated road. The St. Mary's and Stratford, and London, Huron & Bruce steam lines also start from here. The London & Port Stanley to the city's harbor on Lake Erie, Port Stanley, insures equitable freight rates on the steam lines by providing a competitive water



London, Ontario, northeast from centre. (From an aeroplane.)

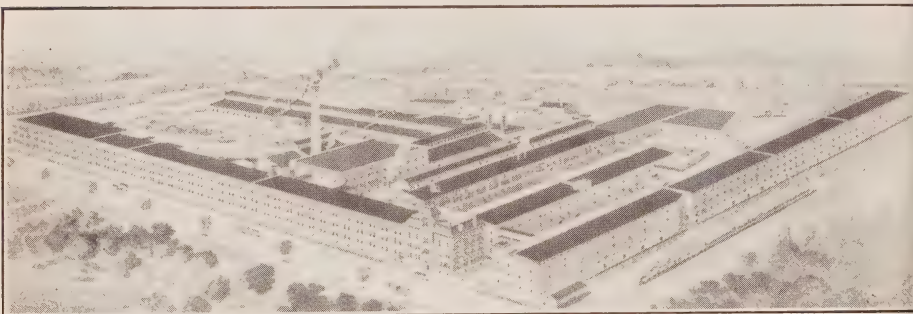
route and affords direct connection with lake steamers to United States and Canadian lake ports.

As a manufacturing city it is steadily growing in importance. Among its numerous industries are threshing machine, traction and agricultural implement works; rolling mill, foundry, tannery; and such industries as brick and tile, boot and shoe, knitting and garment making, oil and soap, biscuit and candy, etc. It is also a large brass plumbers' supplies manufacturing centre; it has the largest annual cigar output in Canada except that of Montreal, and one of

the largest stove plants in the Empire. Electric power at a low rate is supplied by the Hydro-Electric Commission.

London is a city of great natural beauty, with wide regular streets, boulevards, shade trees, splendid parks, publicly owned water works, and other utilities and fine residences. About 80% of the working men own their own homes. It is the leading educational centre of Western Ontario, having the Western University, Provincial Normal School, Collegiate Institute, and 25 schools, including Technical and Art School, and other educational institutions.

The Provincial Asylum for the Insane is located here, occupying some 300 acres. The Federal Government estimates (1919) provide for a new Post Office and Customs House, costing \$400,000.



Binders and Mowers Factory, Brantford.

Brantford

Brantford, on the Grand River, Brant County, 63 miles west of Toronto, is a city of 35,000 people (including immediate suburbs).

The industrial activity of the city is largely due to its excellent railroad facilities. They are—the main line of the Grand Trunk Railway, the Toronto-Hamilton and Buffalo Railway, and the Lake Erie and Northern Railway. Several branch lines enter the city. Radial lines connect Brantford with Paris, Hamilton and Galt.

Brantford is an industrial city, and the fourth in Canada in the export of manufactured goods. There are one hundred factories, which include one of the largest plow works in the Empire, and other very large industries such as pulpwood and sawmill machinery, the Cordage Company, and the Stove and Furnace Company.

The Hydro-Electric System and the Dominion Transmission Company, Ltd., supply the city with power and light.

Sixty-eight per cent. of the houses are owned by the occupants. The collegiate and schools are excellent. The parks and open spaces are numerous and attractive.



Windsor.

"Twelve million river and lake excursionists carried last season without loss of a single life."

Windsor

The city of Windsor, Essex County, 230 miles from Toronto, on the Detroit River, opposite Detroit, is in the most southerly part of the Dominion, midway along the chain of Great Lakes, where the principal highways of commerce converge to cross the international waterway. Population, 28,064 (assessed). It has exceptional facilities by rail and water for reaching the growing western market. Five railways enter the city: Grand Trunk, Canadian Pacific, Michigan Central, Wabash, and Pere Marquette. There is also an electric railway system operating eastward. The city is on the line of Canadian steamships on the Great Inland Waterways. It is the metropolis of the rich fruit and tobacco belt of south-western Ontario. Its industries include automobiles, machinery, foundry, steel

and iron products, wire fences, stoves, brass goods, pearl buttons, bent wood, paper boxes, paint and varnish, cigars, chemicals, drugs, salt, flour mills, cereals, etc. Natural gas is supplied to manufacturers. The city has seven large public schools, four separate schools, and a Collegiate Institute; well paved shaded avenues, street intersections beautified with flower beds, well-kept public grounds, and attractive homes.

The "Border Cities" embrace the municipalities of Ford, Walkerville, Windsor, Sandwich and Ojibway, all of which adjoin without severance. The total population is now over fifty thousand, having doubled within the past five years, and is still increasing.

Within the past few years the industrial development of the Border Cities has been somewhat phenomenal. They possess over 180 operating factories, to which others are being continually added. Almost all of these represent American capital and enterprise. The main industries are automobiles, salt, chemicals, drugs, steel and iron products, machinery, cereals, paint and varnish, etc. Educational facilities are of a high order. The district is popular with American tourists and summer visitors.

Peterborough

The city of Peterborough, County of Peterborough, with a population of over 28,000, is picturesquely situated on the Otonabee River, a part of the Trent Canal system from Lake Ontario to Georgian Bay. It is 76 miles from Toronto and 200 from Montreal, is on the Midland system of the Grand Trunk, and the main line of the Canadian Pacific passes through.

The Otonabee River and connecting waters furnish an almost unlimited supply of water power, and Hydro-Electric energy is delivered at very cheap rates for light and power.

The city is especially adapted for specialized industries. Its industries include an extensive plant for the manufacture of electric machinery and appliances; dairy supplies and silos; agricultural implements; lumber, planing and flour mills; cereal foods; yarns and woollen goods; carpets; pork products; canoes; tents, awnings and flags; marble products; brick and tile; special steel and iron products, including locks, window frames, motors and road sweepers; furniture; boots and shoes, and many others.

An up-to-date electric railway system is in operation in the city. On the Trent Waterway, in the city, is situated the Hydraulic Lift Lock, the highest lift lock and one of the largest monolithic masses of concrete in the world.

The city has a Provincial Normal School, two Collegiate Institutes, a Business College, a Technical School, modern armouries, Government buildings, three hospitals, nineteen churches, and eleven public schools. It has handsome residences and public buildings, parks and driveways of considerable beauty, and is in the midst of



Tobogganing in winter.

a large and rich agricultural district. Adjacent to the city are attractive summer resorts on the Kawartha Lakes.

Kingston

The city of Kingston, Frontenac County, has a population of 23,737. It is situated near the efflux from Lake Ontario of the St. Lawrence River, at the head of the Thousand Islands. It has ideal shipping facilities. Lake and river steamships call daily during the season of navigation. The Rideau gives water communication with Ottawa and intervening towns. Its railways are the Grand

Trunk, the Canadian Pacific, and Canadian National. The city's leading industries are locomotive works, shipbuilding, foundries, smelting, milling, pianos, tannery, textiles, shipping and wrecking companies, etc. It has excellent educational institutions, including Queen's University, School of Mining and Agriculture, Dairy School of the Ontario Government, Regiopolis College, Collegiate Institute and public schools. The 3rd Military Division has its headquarters at Kingston, and there are numerous military buildings and offices, including Sydenham Hospital, one of the largest and best military hospitals. There are a number of handsome public buildings and attractive private residences. Near it is a Dominion Penitentiary and a Provincial Asylum for the Insane. The La Salle Causeway, which forms part of the Provincial Highway, connects the city with Barriefield and the Royal Military College, the Canadian Sandhurst. Kingston is a fine summer resort, and in the centre of splendid fishing grounds. The New Welland Canal will mean much, as the larger boats will tranship here.

Kitchener

The city of Kitchener, Waterloo County, 62 miles west of Toronto, is on the main line of the Grand Trunk Railway, and has electric connection with Waterloo, Preston, Hespeler, Galt and Bridgeport. It has a population of 21,000, many of which are of German extraction, and 75 per cent. own their homes. The city possesses and operates its waterworks and sewerage system, gas and electric light, and street railway, and has found municipal ownership of public utilities to be a pronounced success. It has the distinction of being the first municipality to use Niagara power distributed by the Hydro-Electric Commission of Ontario. There are 140 factories, and its industries embrace tanneries, rubber goods, felt, planing mill, granite and marble, forgings and glass, furniture, pianos, store fixtures, white wear, shirts and collars, boots and shoes, buttons, bedding, woodenware, flour milling, biscuit and confectionery, beet sugar, pork, etc. The city has branch factories of United States concerns, and it is rapidly becoming the centre for the rubber tire industries. The value of products for the year 1918 was about \$36,000,000. The new Victoria School, typical of the city's educational features, and erected at a cost of \$100,000, is one

of the finest in the Province. Kitchener is well-kept and up-to-date, and all over are beautiful homes. Victoria Park is one of the most attractive parks in the Dominion.

St. Thomas

The city of St. Thomas, known as the "Flower City," population 20,000, is the county seat of Elgin. It is eight miles from Port Stanley, on Lake Erie, and 130 miles from Toronto, and is one of the most important railway centres in the Province. The



M. C. R. Park, St. Thomas.

city is entered by five leading steam roads, the Michigan Central, Grand Trunk, Canadian Pacific, Wabash and Pere Marquette and by one electric railway, the London and Port Stanley, a most modern electric road connecting the city with the port. It is the divisional headquarters for all of the above roads with the exception of the Canadian Pacific. The Michigan Central and Pere Marquette have large shops, employing many men. The post office, city hall and court house, and Y.M.C.A. are fine public buildings. The Collegiate Institute, five new public schools and Alma Ladies' College give the best of educational facilities. The city owns all its public utilities, waterworks, gasworks, electric light and power

plant and street railway. Its industries include the manufacture of car wheels, iron castings, brass castings, furnaces, farm implements, planing mills and flour mills, grave vaults, shoes, knitted goods, chocolates, and several smaller industries. St. Thomas is situated in the centre of one of the finest agricultural areas in Western Ontario, and its growth has been steady and healthy, 80 per cent. of its working men citizens owning their own homes.



Wyndham Street, Guelph.

Guelph

The city of Guelph, Wellington County, 49 miles west of Toronto, is in the centre of a fine agricultural district. The population assessed is 16,308; including suburbs, it is about 20,500. The city is served by the Grand Trunk, the Canadian Pacific and the Canadian National Railways, and by seven branch lines. It owns the Guelph Junction Railway, leased to the C.P.R., and it owns and operates all of its public utilities, including the Guelph Radial Railway, gas works, electric light plant and waterworks system. Its manufactures include agricultural implements, farm tractors, gas engines, boilers, radiators, stoves, electric lamps, lawnmowers, malleable and grey iron castings and fittings, brass castings, wrought iron tubing, springs and axles, auto parts, automobile tires,



Residences, St. Catharines.

rubber dipped goods, rubber footwear, pianos, sewing machines, carpets, cotton goods, linen goods, clothing and men's hats. There are 9 public schools, 3 separate schools, a Collegiate Institute, the Loretto Academy, and a Business College. It is the seat of the Ontario Agricultural College and Macdonald Institute. There are also the Homewood Sanitarium and the Ontario Government Speedwell Hospital for Soldiers' Civil Re-establishment. The Ontario Provincial Winter Fair is held in the city annually. Guelph is on a high altitude and is a noted health resort.

St. Catharines

The city of St. Catharines, Lincoln County, is ten miles west of the Niagara River, and is situated on the Welland Canal. The city is served by the Grand Trunk Railway. The population is 19,189. The Niagara, St. Catharines and Toronto Electric Railway, a part of the Canadian National Railways, centres in St. Catharines, and has branches which run to Niagara-on-the-Lake, Merriton, Thorold and Niagara Falls; to Welland and Port Colborne on the south, and to Port Dalhousie on the north, where steamboat connection is made with Toronto directly across Lake Ontario.

The main industries of the city are connected with the paper and metal trades, there being a large number of paper mills manufacturing all classes of paper products, and also industries calling for high grade skilled machinists. The city is in the electrical power development district for the industrial section of Ontario, and it also has two large electrical industries.

St. Catharines is situated in "The Garden of Canada," being surrounded by a rich fruit growing and agricultural district, and has a number of canneries, preserving factories, etc. The city is the seat of the Bishop Ridley College for Boys.

Stratford

The city of Stratford, the county seat of Perth, 88 miles west of Toronto, is on the main line of the Grand Trunk Railway. It has a population of 17,500. Six branches of the Grand Trunk Railway pass through the city, making it a splendid distributing centre, and a favourable location for factories. The surrounding country is excellent farm land, and the farmers are most prosperous. Stratford's numerous high-grade furniture factories have gained

for the city the name of "The home of good furniture," but while specializing in furniture there are other important industries, such as locomotive repair shops, bridge and iron works, threshing machines, flour mill machinery, agricultural implements, brass works, brick and tile, knitting factories, woollens, clothing, flour mill, pork packing, flax mill, stave mill, paper box factory. The city has several fine schools, including an excellent Collegiate Institute and a Provincial Normal School. The streets are well paved and lined with maple and other trees. A great many people own their own homes. The park system, consisting of 125 acres along the Avon River, commands the admiration of all visitors.



Stratford.

Chatham

The city of Chatham, Kent County, 180 miles from Toronto, is situated at the head of navigation on the River Thames. Population, 15,100. At its service are the Grand Trunk and the Canadian Pacific Railways, the Wabash, and the Pere Marquette, and there is an electric railway between Chatham, Wallaceburg and Lake Erie. The city has electric light and power and a first-class system of waterworks, armouries, three large public schools, a

Collegiate Institute and a Business College. Among the industries are plants manufacturing carriages, buggies, automobiles, wagons, engines and boilers, gas engines, malleable steel and iron specialties, concrete products, brick and tile, bent goods, woollen goods, cotton gloves, overalls, horse pads, flour, sugar from cane and beet, and canned products. The city is in the midst of a fertile agricultural district, and in the neighbourhood are good fishing and shooting.

Niagara Falls

The city of Niagara Falls, 83 miles from Toronto by rail, is situated on the Niagara River near the world-famed falls. Population, 13,000. It is the seat of great power development, and the starting point for transmission lines. Three electric plants generate 410,000 horse-power, and the Hydro-Electric Power Commission have under construction a power canal which when completed will supply 500,000 additional horse-power. Railway transportation into both Canada and the United States is unsurpassed, the Niagara Peninsula being one of the main points of contact for the railways of Canada and the United States between Montreal in the east and Detroit River in the west. An electric line to St. Catharines and Port Dalhousie, and a steam road to the town of Niagara on Lake Ontario, connect the city with steamboat to Toronto. There is also an electric railway to Buffalo, and one along the river between Queenston and Chippewa, with connection from the former by steamship to Toronto. From Chippewa on the Upper Niagara River there is uninterrupted water transportation as far as the western shore of Lake Superior, giving access to the market of north-western Canada.

The city's residential advantages are up-to-date, including electric power and natural gas for light and heat. Its industries include, cereal foods, cannery, creamery, carborundum, graphite, silverware, cyanamid, suspenders, neckwear, hosiery, corsets, hats, carpet sweepers, paper boxes, aluminum novelties, wire and steel chains, hoisting machinery, planing mills, foundry, machine shop, two brick yards, two builders' factories, electro-chemical industries and others.

The educational facilities are excellent, and a new technical school is being built.

Sarnia

Sarnia, county seat of Lambton County, population 13,000, is situated on the St. Clair River at its source, the mouth of Lake Huron, 170 miles west of Toronto. The city is served by the Grand Trunk and Pere Marquette Railways, the former of which crosses the St. Clair by tunneling and the latter by ferrying.

The Northern Navigation Company steamers run three times weekly to Port Arthur, Fort William and Duluth; the Canada Steamship Lines, Limited, operating a frequent package freight service from Montreal, and the Great Lakes Transportation Com-



S.S. Noronic at dock, Sarnia.

pany, make Sarnia a port of call. Three steamers of the White Star Line operate daily in the summer months between Detroit and Sarnia. During navigation an immense amount of freight is transferred from the railroads of this city to lake boats bound for the Canadian west.

The city's industries are oil refining, lumber, planing and saw-mills, threshers, stoves and ranges and oil stoves, gas water heaters, automobile and heavier castings, automobile bushings, plumbing supplies and plumbers' tools, ship chandlery, fabricated steel for heavy construction work, metal plating, asbestos protected metal,

wire fences, stone cutting, asphalt paint, paper boxes, overalls, flax fibre, fish hatchery, salt works, ice cream, fruit preserving.

Sarnia has natural gas, Hydro electricity, street railway, good pavements, good schools and an excellent water front.

Galt

Galt, Waterloo County, population 12,534, is situated on the Grand River, on the main line of the Canadian Pacific Railway and the Hamilton and Southampton and the Galt and Elmira branches of the Grand Trunk Railway. It is 57 miles west of Toronto. It is the terminus of the Grand River Electric Railway connecting with Preston, Hespeler, Kitchener and Waterloo and also of the Lake Erie & Northern Electric Railway running south through Paris, Brantford and Simcoe to Port Dover on Lake Erie.

Its industries, sixty in number, include engines, boilers, lumber, wheels, builders' supplies, brass goods, stoves, machine knives, safes, boxes, boots, underwear, iron working and wood working machinery, fans and blowers, tacks and nails, machine screws and machine tools. It is served with Hydro-Electricity and natural gas.

There are high class educational facilities, including five public schools, a separate school and a Collegiate Institute, a public library and a modern Y.M.C.A. building. The city has four large parks, and is in the centre of a rich agricultural district.

Belleville

The city of Belleville, Hastings County, population 12,345, is situated at the point where the Moira River flows into the Bay of Quinte and thence into Lake Ontario. It is on the main line of the Grand Trunk Railway, the Canadian National Railway, and the Canadian Pacific Railway, and is about 113 miles east of Toronto and 220 miles west of Montreal. It is a port of call for the Bay of Quinte division of the Canada Steamships, Limited, plying between Toronto, Montreal, and intermediate ports. Belleville has 50 industries, and is the largest cement producing centre in Canada. Among its industries are the following: lock works, flour mills, foundries, rolling mills, planing mills, shirt factories, mattress factory, engineering works, cold storage, fruit machinery, evaporator, canning factory, boat works, carriage works, paper mills, machine works,

furniture factories, distillery, vinegar works, stone quarries, marble and brick works, cigar factories, tinware and lanterns. It is also an important market for agricultural and especially dairy products. The city's residential section is especially attractive because of its wide shaded streets and comfortable residences. The opportunities for boating, fishing, yachting and motoring attract numbers of visitors. There is an unlimited supply of Hydro power available from Trent Canal.

It is also a great educational centre, comprising Albert College, St. Agnes School for Ladies, The Ontario Business College, The Ontario School for the Deaf, two Conservatories of Music, a Collegiate Institute and a number of excellent schools.

Owen Sound

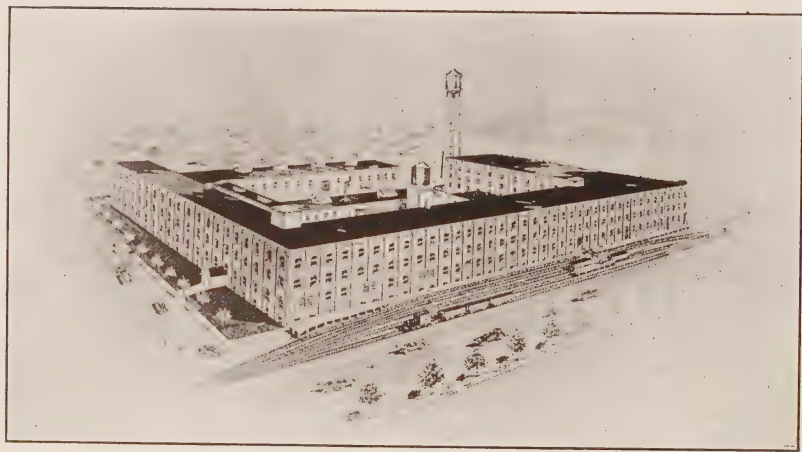
Owen Sound, Grey County, 122 miles northwest of Toronto, is located where the Sydenham River flows into Georgian Bay and at the terminus of divisions of the Grand Trunk and Canadian Pacific Railways. Population, 12,100 (assessed). Its harbour is one of the finest on the Upper Lakes. The Canadian Pacific Railway Company, the Dominion Transportation Company and other S.S. lines operate boats to lake ports. Its industries are foundries, wire fences, wire nails, bolts and screws, tanneries, mill machinery, turbine water wheels, agricultural implements, sash and door factories, furniture, woodenware, stoves, woollens, storage plants, flour and oatmeal mills, linseed oil mill, sawmills, brick, lime and other industries.

Oshawa

Oshawa, County of Ontario, population of over 11,000, 33 miles east of Toronto, is on the main lines of the Grand Trunk and Canadian Pacific Railways, is on a branch of the Canadian National Railway, and is connected with Lake Ontario by the Oshawa Electric Railway. An electric railway to Toronto is under construction. The town has a wide reputation as a manufacturing centre. An average of 130 freight cars is handled daily by the electric railway, to and from the three steam roads. It is one of the centres of the automobile industry in Canada, and has the largest auto plant in the Dominion. Among its foremost industries, besides motor cars, are malleable iron, steam and gas fittings, springs and axles, metal



King Street West, Oshawa.



Motor Factory, Oshawa.

roofing and interior decorations, pianos, leather, woollens, textiles, rubber goods, milling, canning. Its chief industries employ over 4,000 people. The customs revenue for the fiscal year ending March 31st, 1919, was \$3,802,863. It is a fine residential town, with high and public schools, public library, electric light and power, street railway, well paved streets and attractive parks.

Woodstock

The city of Woodstock, county seat of the County of Oxford, has a population of 10,027 (assessed). It is situated on the main lines of the Canadian Pacific and Grand Trunk Railways, 90 miles from Toronto, and is about midway between Detroit and Niagara Falls. It is also on the line of the Grand Trunk running from Lake Erie to Lake Huron and Georgian Bay, and is the terminus of an electric line of railway running between Woodstock and Ingersoll, a distance of some ten miles. The city is situated in a fine agricultural district, particularly noted for its dairy products, and it has a splendid shipping trade in milk, cheese and eggs. Among its industries are machinery, planing mill products, wagons, wheels and sleigh runners, wheel hubs, gasoline pumps and tanks, woven wire fencing, farm and garden tools, stoves, bent goods, castors, furniture, pianos, organs, knitted goods, braids, worsted goods, gloves, silk hose, soap, flour, oatmeal, and biscuits.

The city has armouries, a hospital, five public schools, separate schools, Y.W.C.A., a public library, a Commercial College, Collegiate Institute, and Woodstock College. It is on the line of the Hydro-Electric Power Commission, is well lighted, and has an abundant pure water supply.

Brockville

Brockville, the county town of Leeds and Grenville, population 10,000, is a port on the St. Lawrence River, 125 miles west of Montreal. It is a divisional point on the Grand Trunk Railway, and is also served by the Canadian Pacific and the Canadian National Railways. Its shipping facilities by rail and water are excellent. The town is the centre of a very large and important dairy section. There are twenty-eight factories making castings, hardware, clothing, hats, machinery, fire protection apparatus, automo-

biles, etc. Brockville is beautifully situated at the eastern gateway of the Thousand Islands, and it is within two hours' ride of the Rideau, Beverley and Charleston Lakes.

Lindsay

Lindsay, Victoria County, population 8,000, 70 miles from Toronto, is the centre of a fine farming district. Its railway facilities are the Grand Trunk and Canadian Pacific, and it has steamboat connection with summer resorts on the Kawartha Lakes. The town has five schools, a Collegiate Institute, a Business College and the Dominion arsenal. Its industries include lumber and saw mills, agricultural implements, mill machines, flour mills, milk products, tannery, woollen mill, builders' factories, chemical works and canoes. The town is splendidly paved and supplied with electric power.

Collingwood

Collingwood, Simcoe County, 94 miles from Toronto, is on the south shore of the Georgian Bay and on the Grand Trunk Railway. Population about 8,000. It has extensive dock accommodation, and the largest dry dock on the Upper Lakes. During the season of navigation it has communication with the leading lake ports. Its shipbuilding yards are running at full pressure, and it has probably the largest steel shipbuilding plant in Canada. Among its other industries are foundries and machine shops, saw and planing mills, steel, oil, tannery, knitting mill, flour mill, fruit and vegetable cannery, apple evaporator. The town owns the waterworks, electric light and Hydro-Electric power, and it has a Collegiate Institute, a public library, an armoury, a Government fish hatchery, and the largest fruit and vegetable farm in the Dominion.

Cornwall

Cornwall, Stormont County, the first important town west of Montreal and distant from it 68 miles, is on the St. Lawrence River, five miles east of the Long Sault Rapids. Population (assessed) 6,869, with suburbs 9,000. The town is served by the Canadian Pacific and the Grand Trunk Railways, and the Ottawa branch of the New York Central. It has steamship connection with the principal ports. Its industries are cotton mills, paper mill, pulp, furni-

ture, bedsteads, lacrosse, etc. It has public, separate and high schools and a commercial college. There is a summer resort at Stanley Islands, eight miles away.

Other towns are—Smith's Falls, Barrie, Orillia, Cobourg, Pembroke, Welland, Port Hope, Ingersoll, Midland, Goderich, Waterloo, Hawkesbury, Paris, Arnprior, Petrolea, Preston, Carleton Place, Simcoe, Penetanguishene, Gananoque, Wallaceburg, Walkerville, St. Mary's, Picton, Perth, Newmarket, Campbellford, Dunnville, Parry Sound, Walkerton, Rockland, Brampton, etc.



Waterfront, Fort William.

NORTHERN ONTARIO

Fort William

The following are the cities and the more important towns:

The city of Fort William, 862 miles from Toronto, is situated on the Kaministiquia River, flowing into Thunder Bay, on the western shore of Lake Superior. Dividing into three channels at its mouth, the river has about 26 miles of water within the area of the city limits and with improvements constitutes one of the finest harbours in the Dominion. It is the terminal port of the Canadian Pacific Railway steamship service from Port McNicoll, a port of call of the Northern Navigation Company from Sarnia, and of the

Great Lakes Transportation Company. And there are a dozen boat companies, all regular package freighters, besides numerous other craft trading on the lakes. Immense quantities of grain from Manitoba and the Northwest are transhipped here to lake vessels. Railway facilities include the Canadian Pacific, the Canadian National, the Grand Trunk Pacific and the Mt. McKay and Kakabeka Falls Railway. An electric railway connects the city with Port Arthur, three miles north-east. The population is 20,000 (assessed 17,911) and has doubled in eleven years.

The city's chief industries are: grain storage, grain marketing and blending, flour milling, shipbuilding, manufacturing iron and steel, railway box cars and wheels, iron pipes, wood and iron novelties, sashes and doors, brooms, saddlery, cereal and stock feeds, starch and syrup, lumber production in all its finished phases, coal handling, warehousing and other industries. In the surroundings the industries are lake fishing, lumbering, pulpwood, gold, copper and iron mining, stock raising and agriculture.

The total grain storage capacity at the Canadian head of the lakes is 50,000,000 bushels, Fort William's share being 30,000,000 bushels, in 22 elevators. In pulp camps and mills over 3,000 men are employed. The output of flour in one year has been 700,000 barrels. The total value of packinghouse products is estimated at \$2,750,000. The total catch of fish by local fishermen in 1918 was 3,000 tons, greatly augmented in 1919 under Ontario Government auspices. The total coal receipts in 1918 were 2,062,681 tons.

The city has an unlimited source of water power in its immediate vicinity, 35,000 horsepower being developed from Kakabeka Falls. It owns and controls its street railway (valued at \$1,100,000) and electric light, telephone, water and sewerage systems. It has a city hall, court house, public library, grain exchange, ten chartered banks, three firehalls, Y.M.C.A. (cost \$120,000), Collegiate Institute, fine hotels, two hospitals (one with accommodation for 200 patients), ten schools and fifteen churches, handsome business blocks and residences, fine streets and boulevards, and beautiful parks. Big game, moose, deer, caribou and bear are in the neighbourhood, and small game abound. Hundreds of tourists visit Fort William and vicinity.



C. N. R. Coal Docks at Port Arthur.



Dry dock of Port Arthur ship-building plant.

Port Arthur

The city of Port Arthur, situated on the shore of Thunder Bay, at the head of navigation on Lake Superior, is on the main lines of the Canadian Pacific and the Canadian National Railways, and on the Port Arthur, Duluth and Winnipeg Railway. It is about 1,400 miles from tidewater on the St. Lawrence at Quebec and about 1,900 miles from the Pacific Ocean. It is the Canadian terminus of the Northern Navigation Company, and a calling port for the Canadian Pacific and the Great Lakes Transportation Company, and for a number of regular freight steamship lines. Much of the merchandise of the east is transferred here from water to rail, while grain from the west is transhipped to the vessels of the lake.

Port Arthur has several large lumber companies, with a capacity of 50,000,000 feet per year, a pulp and paper company with a capacity of 50 tons bleached sulphite pulp a day, a blast furnace with a capacity of 100 tons pig iron per day, a shipbuilding company which employs over 1,500 men, wagon works with a capacity of 15,000 wagons per year, a coal dock with a capacity of 800,000 tons, nine elevators with a total capacity of 21,665,000 bushels, and water powers near the city which are capable of 300,000 horse-power development, 35,000 of which are already developed and another 50,000 under way. Other industries are—cold storage plants, aerated water companies, hardwood finishing factory, tent and awning companies, brick works, etc. It owns and operates its street railway and all public utilities.

The city has a Government wireless station, 9 banks, 17 hotels, 3 theatres, a public library, a Y.M.C.A., a Sailors' Institute, a Collegiate Institute (cost \$150,000), 2 separate schools, 6 divisional schools, and churches of all denominations.

Port Arthur is the judicial centre for Thunder Bay District, and located in it are its Government offices. Its population (assessed) is 14,439. With wide streets permanently paved and lighted, and with many handsome residences surrounded by well-kept lawns and luxuriant foliage, the city is an attractive home in which to reside.

Sault Ste. Marie

Sault Ste. Marie, District of Algoma, is on the terminus of the Algoma Central and Hudson Bay Railway, and on a branch of the Canadian Pacific Railway, 180 miles west of Sudbury. It is on the Sault Ste. Marie Canal Locks between Lakes Superior and Huron, is the headquarters of the Algoma Central Steamship Lines, and has direct steamship communication, passenger and freight, with all points on the Great Lakes. Five package freight lines employ over 40 steamers. The municipality owns the electric light and waterworks systems. Its principal industries are—steel plant, iron works, foundries, blast furnaces (capacity 43,000 tons monthly), open hearths (capacity, 36,000 tons monthly), duplex plant (capacity, 16,000 tons monthly), rail mill (capacity 30,000 tons monthly), pulp and paper mill (manufacturing capacity per day, 170 tons ground wood pulp, 160 tons sulphite pulp, 220 tons newsprint, 30 tons paper board), carshops, machine shops, brick plants, chemical works, brewery. There are a number of wholesale houses, 8 banks, several hotels, a Federal Building, library, 11 schools and 7 churches.

The capital invested in industrial enterprises is \$60,000,000. The city is one of the large centres for commercial fisheries. The district abounds with game and fish and attracts many sportsmen from eastern Ontario and the United States. The population in 1919 was 22,000.

North Bay

North Bay, 360 miles west of Montreal, is on the north shore of Lake Nipissing and at the junction of the Canadian Pacific, the Grand Trunk, the Canadian National and the Temiskaming and Northern Ontario Railways. The town has attractive residences, good business houses, and is well equipped with electric light and water systems. There are planing mills, a sawmill, brick plants, a smelter, car repair shops, machine shops, a toy factory, four banks, three hotels, a court house, the Registry and Land Titles Office for the district, a Business College, a Normal School, a Collegiate Institute, five public and separate schools, and seven churches. It is the headquarters of the French River tourist route, where there is a beautiful summer resort, and is in a lumbering, mining and

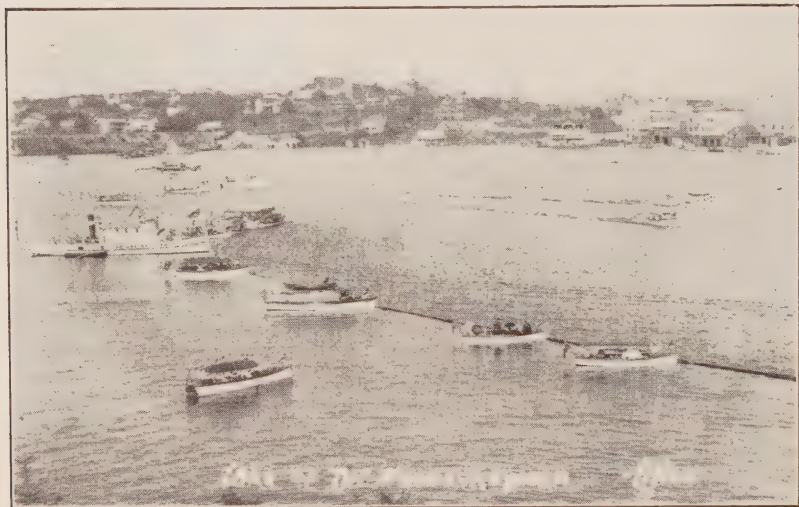
farming district, with 50,000 acres available for settlement. The population (assessed) is 9,197.

Sudbury

Sudbury, the judicial centre of Sudbury District, 79 miles west of North Bay, is on the Canadian Pacific, the Canadian National and the Algoma Eastern Railways. The town is a wholesale and distributing centre, and has 8 lumber headquarters, 4 planing mills, brickyard, cement block yard, diamond drill business, foundry and machine shops, flour mill, Quaker Oats establishment, 2 cold storage, 6 hotels, 6 municipal buildings, Federal buildings, court house, registry, waterworks, electric light and power, 2 newspapers, 3 theatres, hospital, 4 public schools, high school (including Government School of Mines), 2 separate schools, Jesuit College, and 6 churches. There are iron and nickel mines adjoining, the latter producing 90 per cent. of the world's nickel output. Population (assessed), 7,215.

Kenora

Kenora, District of Kenora, 133 miles east of Winnipeg, is at the efflux of the Winnipeg River from the Lake of the Woods and at the foot of 300 miles of navigation. Population, 5,000. It is



Kenora.

the judicial centre for the district and contains the several Government offices. Its principal industries are flour milling, lumbering, mining, fishing, boatbuilding, and summer resort business. It is the headquarters of the Winnipeg-Fort William division of the Canadian Pacific Railway, employing 600 men. The Maple Leaf Milling Company manufactures over 8,000 barrels of flour per day. The Lake of the Woods Milling Company at Keewatin, three miles distant, manufactures 13,700 barrels per day and has a barrel factory of 1,000 barrels capacity per day. The Keewatin Lumber Company manufactures thirty million feet of lumber annually and also operates two wood working factories. The Brett Elevator Company does an extensive trade in grain and other farm produce. Kenora is fast becoming the centre of a wide farming district. There is abundance of water power, only a small part of which is developed within the town limits. The summer resident business is steadily increasing as year after year the Lake of the Woods attracts more visitors. Kenora commands a beautiful view of the lake, which is picturesquely dotted with many thousand islands.

Cobalt

Cobalt, 330 miles north of Toronto, is on the Temiskaming and Northern Ontario Railway. The population, town and adjacent mines, is approximately 8,000. It is one of the richest silver districts in the world. The production of silver in the Cobalt Camp from the time of its discovery in 1903 to the end of 1918 was 290,000,000 ounces, producing silver throughout 1918 at the rate of about two tons of pure silver every working day. The town has a machine shop and foundry, Government sampling plant, several wholesale supply companies and such modern conveniences as electric cars, electric light and telephone service, with a number of concentrating plants at the mines and several refineries.

Porcupine

Porcupine, on the T. & N.O. Railway branch from Porquis Junction, is an important gold mining district. The principal mines are the Hollinger, McIntyre and Dome, and the gold output, which is steadily increasing, totalled \$8,500,000 for 1918. The population of the Porcupine district is approximately 7,000 (floating and uncertain).

Haileybury

Haileybury, on the T. & N.O. Railway, five miles from Cobalt, is the judicial seat of the north and is one of the oldest and most beautiful towns in Northern Ontario. The population is about 3,500. The town commands a splendid view of Lake Timiskaming over to the Quebec side, has a good waterfront and harbour, and



Camp Timagami, Lake Timagami, Northern Ontario.
Accommodation for 150 boys.

has large public buildings and handsome residences of people actively engaged in the business of Cobalt Camp. It is connected with Cobalt by half-hourly street car service, and with lakeside towns by Timiskaming Navigation Company's steamer. A good sized area of farming land lies directly west of and adjoining the town.

New Liskeard

New Liskeard, District of Timiskaming, is on the T. & N.O. Railway, and on the north shore of Lake Timiskaming. There is an electric railway to Haileybury and Cobalt, and steamers to the foot of the lake connect with a short railway to the C.P.R. at Mattawa. The industries are an iron and steel foundry and machine shop, a sawing machine and farm accessories factory, sash and door factories, a flour mill, Ontario Government Creamery, etc. It has an opera house, a hospital, good schools, and a fine public library. The town is in the midst of a rich agricultural country and is the gateway to the "Great Clay Belt." The population is about 4,000 (assessed, 1917, 1,700).

Other towns in Northern Ontario are—Copper Cliff, Timmins, Sturgeon Falls, Fort Frances, Chapleau, Cochrane, Blind River, Iroquois Falls, Thessalon, Mattawa, Rainy River, Schreiber, Verner, Keewatin, Little Current, Dryden, Sioux Lookout, Massey, Englehart, Hearst, etc.

NOTE.—It must be understood that the Bureau of Colonization is not advertising particular industries or even towns or cities, but is aiming at showing substantially the greatness of the Province in these aspects as a setting for the prime interests of agriculture. Hence full lists of towns or industries are not essential to its aim.



Residence, New Liskeard, Timiskaming.



Parliament Buildings, as seen from the Ottawa River.

GOVERNMENT

CANADA

The Dominion of Canada, of which Ontario is one of the federated Provinces, is a federal Dominion of the British Empire, and has a representative and responsible government, with the seat of Government at Ottawa, in the Province of Ontario.

Federal Executive

The King is represented by a Governor-General, advised by a Cabinet chosen from the members of the two Houses of Parliament. The Cabinet consists of 17 ministers holding departmental offices, besides one or more ministers without office.

Legislative Power

The principles of parliamentary government are those of the British Isles. The legislative power is vested in the King, the Senate and the House of Commons. The Senate comprises 96 members appointed by the Crown. It has co-ordinate powers of legislation with the House of Commons, except in fiscal matters. The House of Commons consists of 235 members, elected every five years (unless Parliament is sooner dissolved) by the citizens of the various Provinces. Parliament meets at least once a year; members of both Houses receive a salary. The legislative powers of the Federal Government are limited to certain subjects of Dominion or National importance set forth in the written constitution entitled "The British North America Act."

Province of Ontario

Lieutenant-Governor....His Honour Lionel Herbert Clarke.

EXECUTIVE COUNCIL.

<i>President of Council and Prime Minister</i>	Hon. Ernest Charles Drury.
<i>Attorney-General</i>	Hon. William Edgar Raney.
<i>Treasurer of the Province</i>	Hon. Peter Smith.
<i>Minister of Education</i>	Hon. Robert Henry Grant.
<i>Minister of Agriculture</i>	Hon. Manning William Doherty.
<i>Minister of Public Works and Highways</i> ..	Hon. Frank Campbell Biggs.
<i>Secretary and Registrar of Province</i>	Hon. Harry Corwin Nixon.
<i>Minister of Lands and Forests</i>	Hon. Beniah Bowman.
<i>Minister of Labour and Health</i>	Hon. Walter Ritchie Rollo.
<i>Minister of Mines</i>	Hon. Henry Mills.
<i>Without Portfolio</i>	Hon. Lt.-Col. Dougall Carmichael.
	D.S.O., M.C.

The executive power of the Province is vested in a Lieutenant-Governor, appointed by the Governor-General of the Dominion of Canada and aided by an Executive Council, the members of which have seats in the Legislative Assembly, to which they are responsible. The seat of Government is at Toronto.

There is only one House, an elected Assembly, consisting of 106 salaried members. The duration of the Assembly is four years, unless sooner dissolved. There is manhood suffrage, limited by residence and citizenship. In 1918 the suffrage was extended to women. The sessions are annual. The powers of the Legislature are defined by the British North America Act. The subjects that fall within the legislative authority of the Provincial Government are very numerous: comfort and convenience, liberty and life, all the rights of citizens with respect to property, and the endless matters that daily affect a community.

The legislative powers of the Province relate to the management and sale of public lands and the timber and minerals thereon; administration of justice in the Province; property, and the raising of revenue for provincial purposes; the establishment, maintenance and management of prisons, hospitals, asylums, charities, education, etc.; hotel licenses, local works and undertakings, and generally all matters of a local nature.

The revenue of the Province is derived from the sale of Crown lands, timber and minerals, from incorporation of companies, amusement taxes, succession duties, and other fees, supplemented by a subsidy from the Dominion. The total revenue of the Department of Lands, Forests and Mines for the year ended October, 1919, was \$2,755,736.28. The Province expends a great deal of money in public services such as are maintained elsewhere wholly by the municipalities. These include the care of lunatics, the maintenance of institutions for the deaf and dumb and the blind, of reformatories and refuges for defective classes. Aid is given to hospitals and charities, and the Province undertakes in great part the care and protection of neglected children, and further aids the municipalities with large grants for Public and High Schools and certain Universities and Colleges.

Statement of leading items of expenditure by the Province of Ontario for the year ended October 31st, 1919:—

Civil Government	\$1,165,864	27
Legislation	315,768	16
Administration of Justice	653,530	56
Education	3,302,487	91
Public Institutions, Maintenance	2,693,875	52
Agriculture	1,101,065	16
Colonization and Immigration	67,661	30
Hospitals and Charities	782,589	71
Public Buildings	737,726	55
Public Works	386,354	75
Colonization Roads	390,621	54
Miscellaneous Services and War Expenditure	6,443,242	64
Charges on Crown Lands	1,180,947	57

On the 31st day of October, 1919, the Province had cash to the amount of \$7,603,110.19 on deposit to its credit in the bank.

Municipal Government

Ontario possesses a very complete system of municipal government. The municipal divisions are counties, cities, towns, villages and townships. The ratepayers of each municipality annually elect a council to transact its business, these councils being entrusted with certain quasi-legislative powers operated by the enactment of "by-laws." Revenue is provided by taxation. The main taxes that the people of Ontario are called upon to pay are imposed by the municipality, and they are as a rule quite moderate, especially in rural municipalities. In all municipalities taxes may be levied for roads and bridges, for schools, for general administrative purposes, for the establishment of water and sewerage systems, and for the acquisition and operation of public utilities, by-laws having first been submitted to the ratepayers and their endorsement obtained. As a rule where large sums are to be expended, debentures are issued by the municipality and taxes levied to meet the outlay and sinking fund.

In most countries the expenses of the central government are met by taxes levied on the municipalities, but in Ontario this is not the case. The municipalities raise no funds for the central government, but, on the contrary, the central or provincial government distributes large sums each year among the municipalities.

An "Unorganized District" is a division of Ontario in which, owing to sparseness of population, there is no County Council, and the duties of the Council are therefore discharged in part by the Government of the Province.

The Province of Ontario has a population of 2,578,177, principally British or of British origin. It is obvious that there is room in Ontario for many millions more, and people of British stock, able-bodied and industrious, are particularly welcome.



South Bend, Credit River.

THE WAR

The Great War, as it is named, sadly and horribly justified its pre-eminent name. No preceding war ever rose to its awful height or descended to its brutal depth. Its motive lay in unparalleled conceit and arrogance, in boundless greed and aggrandizement; in callous, wanton cruelty, and in ignorant contempt for the power of surrounding nations. It was might against right. It played with human life as if it were of no value in the eyes of Him who gave it. Indeed, the Hun was God, and there was none beside. And now we see what the enemy never expected to see. We behold him helpless and under the heel of the conqueror, paying and to pay for his crime against God and man. His day, "The Day" to which he drank, has come. He drank it pre-eminently in his own blood, and lost.

When, on August 1st, 1914, Germany declared war on Russia, after Austria (backed by Germany), on July 28th, declared war on Serbia, the neighbouring nations were unprepared. Our enemies, especially Germany, were ready up to the hilt, and were the greatest land fighting force on earth. But in the face of this, and after vainly endeavouring to preserve peace, Great Britain, on August 4th, declared war against Germany. Right was sacred, international treaty must be upheld, Freedom must oppose Despotism, and hence Great Britain entered into the Great War.

Then followed the Overseas Dominions and India, loyal to the British Empire and inspired with the one spirit of freedom. Canada's offer of troops was accepted on August 6th by the British Government. No time was lost. "Thus did Canada answer the call. From the workshops and the offices of her cities, from the lumber camps of her forests, from the vast wheat fields of the West, from the farms and orchards of the East, from the slopes of the Rockies, from the shores of Hudson Bay, from the mining valleys of British Columbia, from the banks of the Yukon, from the reaches of the St. Lawrence, the manhood of Canada hurried to arms. They came forward, free men and unconstrained, with a simple resolve to lay down their lives, if need be, in defence of the Empire."

Lord Roberts visited the First Division soon after its arrival in

England, and in his speech to the troops, said: "The prompt resolve of Canada to give us such valuable assistance has touched us deeply."

The total number of men enlisted in Canada from the beginning of the war to November 15, 1918, was 595,441, Ontario's share, other than "on leave under Orders-in-Council," or enlistment in the Royal Air Force, etc., being 232,895. In addition, 14,590 British and Allied reservists returned to rejoin the colours in their own countries. The number of men of the Canadian Expeditionary Force who had gone overseas up till November 15, 1918, was 418,052. On Sept. 30, 1918, about 160,000 were in France, and about 116,000 in England. The total casualties sustained by the Force and reported up to January 15, 1919, were 218,433. Among the 15,000 different honours granted to its members, 6,697 received the Military Medal; 1,186 the Distinguished Conduct Medal, and 16 with the Bar; 1,882 the Military Cross, and 99 with the Bar; 513 the Distinguished Service Order; 41 with the 1st Bar, and 6 with the 2nd; and 53 the Victoria Cross.

Regarding the campaign, the principal engagements in which the Canadians fought were: In 1915, the second Battle of Ypres, Festubert and Givenchy; in 1916, St. Eloi, Sanctuary Wood and Hooge, the Battle of the Somme; in 1917, Vimy Ridge, Arleux and Fresnoy, Lens and Hill 70, Passchendaele; in 1918, the Battle of Amiens, the Battle of Arras, the Battle of Cambrai, Denain, Valenciennes, and Mons (taken at 3 a.m. on Nov. 11th, the day when the armistice came into force, at 11 a.m.).

The Canadians captured 45,000 prisoners, 850 artillery guns, 4,200 machine guns, retook 130 towns and villages, and liberated 310,000 French and Belgian civilians.

General Seeley gave to Canon Cody this testimony to the Canadian Corps: "I know them; I was proud to command their Cavalry Brigade, and I want to tell you that the Canadian Corps has never failed to take any objective they were ordered to reach, or to hold a position they once had consolidated."

Canadian units also served in Palestine, Macedonia, and Russia.

The overseas transport of food and munitions from January 1, 1915, to December 1, 1918, ran over 11,250,000 tons. The value of munitions and materials exported from Canada was \$1,002,672,413.

The Canadian Government, since the commencement of the war, has issued six domestic loans amounting to \$2,094,000,000. The Government's total borrowings for war purposes from the people amount to \$2,106,000,000, being \$262 per capita of the population of Canada.

The people of Ontario subscribed to the last three Canadian loans the sum of \$896,979,800, being \$358 per capita for the Province. They subscribed 52 per cent. of the last loan (1919). Owing to the method adopted in placing the earlier loans, it is impossible to ascertain results by Provinces, but it is generally accepted that Ontario contributed approximately 50 per cent.

The approximate total of voluntary contributions from Canada to the Canadian Patriotic Fund, the Manitoba Patriotic Fund, the Canadian Red Cross Society, the British Red Cross Society, the Belgian Relief Fund, the Y.M.C.A. for military work, the British Government, the equipment and maintenance of hospitals at home and overseas, to associations for the comfort and care of soldiers, to French, Serbian and Polish Relief Funds, and to various other patriotic purposes, amounts to \$95,391,376.

Ontario's voluntary share in most of these gifts and others amounts to about \$51,600,000.

There is no space left to speak of War Taxation, Food and Fuel Control, Transportation, Women's mighty work, Boys' and Girls' work on farms, War Liquor Regulations (Ontario and all other Provinces, save Quebec, adopted Prohibition), the Rehabilitation of Returned Soldiers, Pensions, Land Settlement for Soldiers, Housing for Soldiers, the Khaki University, Repatriation, etc.

At a public meeting in 1919, the late Minister of Education said: "Those for whom you have worked and fought and prayed are worthy of the best you could have done for them. Yes, and they are worthy of the best we can do for them when they come back again. Many will never come back. Fifty-five thousand or more will never come back. These men being dead, yet speak, and they challenge us in Canada to make this land worthy of the men who died for us. Shall we not learn the lessons God has been teaching us in the war? Shall we not erect in Canada monuments worthy of the men who have fallen? We shall erect monuments of granite or marble in our squares. tables of brass or marble and windows

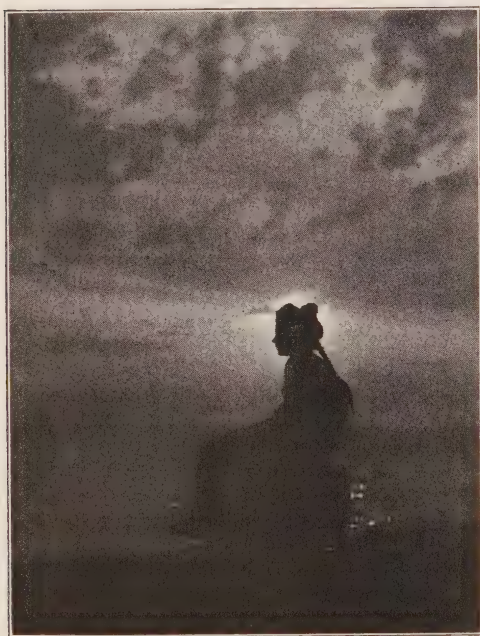
richly decked in our churches. They deserve even a better monument at our hands, and the only monument that is worthy of the blood shed for Canada is a Canada nobler, cleaner, purer, more intelligent, more healthy, more honest, where God is feared and men and women strive together to bring in upon us that commandment of God, where God's will is daily done."

Wake, Canada! awake, awake!
Daybreak in gold is born;
Behold the fire that flecks the hills,
And hear the voice of morn.

What people passed to heritage—
To heritage like thine?
Arise and fill thy destiny—
Thy destiny divine.

Hold thou the sceptre of the free,
Lift not the tyrant rod,
Scorn thou the council of the night,
Lead in the light of God.

What is the message morning brings?
O Canada, be strong!
To him that hath the Lord of Hosts,
The battle doth belong.



"On earth peace, good will toward men."

THE OFFICE OF THE AGENT-GENERAL FOR ONTARIO IN LONDON, ENGLAND

The office of the Agent-General for Ontario at 163 Strand, London, is maintained by the Ontario Government for the purpose of representing Ontario in Great Britain, and distributing information to intending settlers.

For a good many years now this office has proved of great use in connection with migration of people from Great Britain, who desire to make new homes for themselves in Ontario. All the experience that has been gained in connection with this work is freely at the disposal of enquirers. Everyone who is desirous of emigrating to Ontario from Great Britain should avail themselves of the Ontario Government's service, as by doing so they will be able to avoid many difficulties that they might otherwise encounter. Individual attention to particular requirements is gladly given by the Agent-General, who has now perfected a very efficient organization for assisting emigrants in their journey to Ontario.

From time to time personally conducted parties of emigrants are arranged, each under the care of an experienced traveller, and the party is looked after throughout the entire journey.

Free booklets, maps, etc., describing Ontario and its splendid opportunities are distributed in large numbers from this office. At this office also, there is a good display of Ontario products, which has proved a great attraction to those visiting 163 Strand, the exhibits shown giving a much better idea of the capabilities of the country than can be furnished by printed statements alone.

The London office works in hearty co-operation with the Director of Colonization in Toronto. In the case of domestic servants and farm labourers, both experienced and inexperienced, full particulars of each individual settler are sent to Toronto in advance, so that when the newcomers arrive their requirements are understood, and a situation has already been found for them. All those who migrate to Ontario under the auspices of the London Office can receive a letter of introduction from the Agent-General to the Director of Colonization in Toronto, which has proved to be a very great help.



The Ontario Government Office, London, England.

THE BUREAU OF COLONIZATION AND IMMIGRATION

The work and policy of the securing of immigration from the Old Country, under the supervision of H. A. Macdonell, Director of the Colonization and Immigration Branch, is conducted by authority and under the direction of the Honourable Manning W. Doherty, Minister of Agriculture, Parliament Buildings, Toronto.



H. A. MACDONELL,
Director of Colonization.

The system and policy of the Bureau of Colonization, chiefly in winter, is first of all to advertise in all farm papers and the principal daily papers, from Port Arthur and Fort William to Ottawa, the prospects of securing emigrants for farm work.

In this advertisement, farmers are advised to write the Bureau for Application Forms. The Form is made out in such a simple way that all the farmer has to do is make a cross against the kind of farm help he requires, give the number of acres on his farm, his telephone number, and the most direct route to his farm from Toronto, or from the port of arrival, also the wages he is prepared to pay per month, and the length of time for which he wishes to engage a man or a family. In the placing of emigrants from the Old Country, it is understood that there is no special contract with them until there be a trial of two weeks or a month.

The Bureau of Colonization has an Ontario Government representative who meets all steamboats, and places all farm help east of Toronto. He also gives valuable and free information to all emigrants whose destination is the Province of Ontario, and advises them carefully, so as to enable them to reach their destination in the quickest and most direct way.

All emigrant trains are met in Toronto by a special Government officer, the emigrants are advised on the question of luggage and accommodation, and as soon as they are booked for a situation on a farm they are guided in the purchase of tickets and the checking of baggage for their further short journey by rail. From the time of landing in Toronto until put on a train for the farm the emigrant is under the care of Government officials. And official interest does not stop at that—each one is given a stamped postcard addressed, so that if in need of further advice or a change of position the emigrant has only to write the message and drop the card in the nearest post box; or, if urgent, he may 'phone or wire. Such is the particular care taken of emigrants by the Provincial Government.

The Director of Colonization has received from the Agent in London, England, definite information that a large number of emigrants, carefully selected and suitable for farm work, will reach here this spring. He has also been advised by the Agent that there will likely be hundreds of families from the British Isles, who are possessed of capital, ranging all the way from \$5,000 to \$50,000, to invest in farming property in Ontario.

The Bureau of Colonization and Immigration is advertising extensively in the United States, offering great opportunities to the prospective settler from that country. The newcomer is able to

buy land in the older portion of Ontario at very reasonable prices, or to secure it in Northern Ontario at 50c. an acre. The Bureau has an Agent who has been seeking out prospective settlers from the United States, as well as looking after emigrants from the Old Land. He has been very successful, and from reports received there will likely be a large influx of settlers.

A brief illustration of the way the Bureau looks after emigrants from the Old Country appears in a letter just received from a couple of families who arrived here recently and were placed through the machinery of this office. The following is a copy:

Saturday, January 24, 1920.

The Director of Colonization,
Parliament Buildings,
Toronto, Ont.

Dear Sir:—

I think you may be interested to hear of the doings of our party, and so I am sending you a brief account.

I should like, first of all, to express the united thanks of our party for the very great kindness and assistance which we have received since our arrival in the country. It certainly has astonished us that just ordinary folk like ourselves should have been the objects of so much care and attention. I hope that our friends in England will be able to appreciate for themselves and make known to others what has been done for us.

If our welcome in Toronto surprised us, what shall I say of our reception here? I confess that I hardly feel equal to doing justice to the subject. The kindness and willingness to help displayed by everyone has been astonishing. Your Agent has been our genial guide and friend, and I cannot imagine that he has omitted one single little thing which would have been of help to us. He met us at the station with some of the leading citizens of the town and from that moment has not let us go. He established us in this hotel, where we have been very comfortable, and has taken us to the Creamery, Egg Depot, Cannery, and other places to explain the methods of disposing of products, all of which seem very convenient, and are, of course, very interesting.

He has also taken us to see several of the farms about and has given us an insight into the methods and conditions which should be of the greatest help later on.

We have been introduced by him to every man, woman and child in the district, and by means of his geniality and friendliness, as well as by those qualities in the citizens we have met, we already feel very much at home in our surroundings.

We have had several talks with him as to our best way of getting to work, and as a result he has made an arrangement which seems to hold every promise of being exactly what is best for us.

We are going on Monday to the farm of a Mr. R., about five miles from here, on the lake shore. Mr. R.'s farm is about 80 acres. He has apples, plums and peaches for fruit; he keeps cows, horses, pigs, hens, bees, and also produces the usual crops besides. The arrangement is that we are to work the farm entirely, with Mr. R. to advise and instruct. He will also act as salesman. We take one-third of the profits.

It appears to me to be exactly the kind of arrangement most suited to our needs. We shall be housed, fed and paid, and be all the time gaining experience, and not have to spend any of our own money meanwhile. I understand that Mr. R. may be willing, later on, to get out altogether, in which case we can probably make an even more favourable arrangement and possibly ultimately acquire the farm altogether. That, of course, remains to be seen.

For the present, then, we are, as you will see, very favourably located, thanks to the kindness of yourself and your Agent, and nothing that I can say will adequately express our thanks for what has been done for us.

As I have said, I hope that we may be able, through our friends in England, to let it be known what is done for people coming over to settle.

Kind regards from us all.

Yours sincerely,

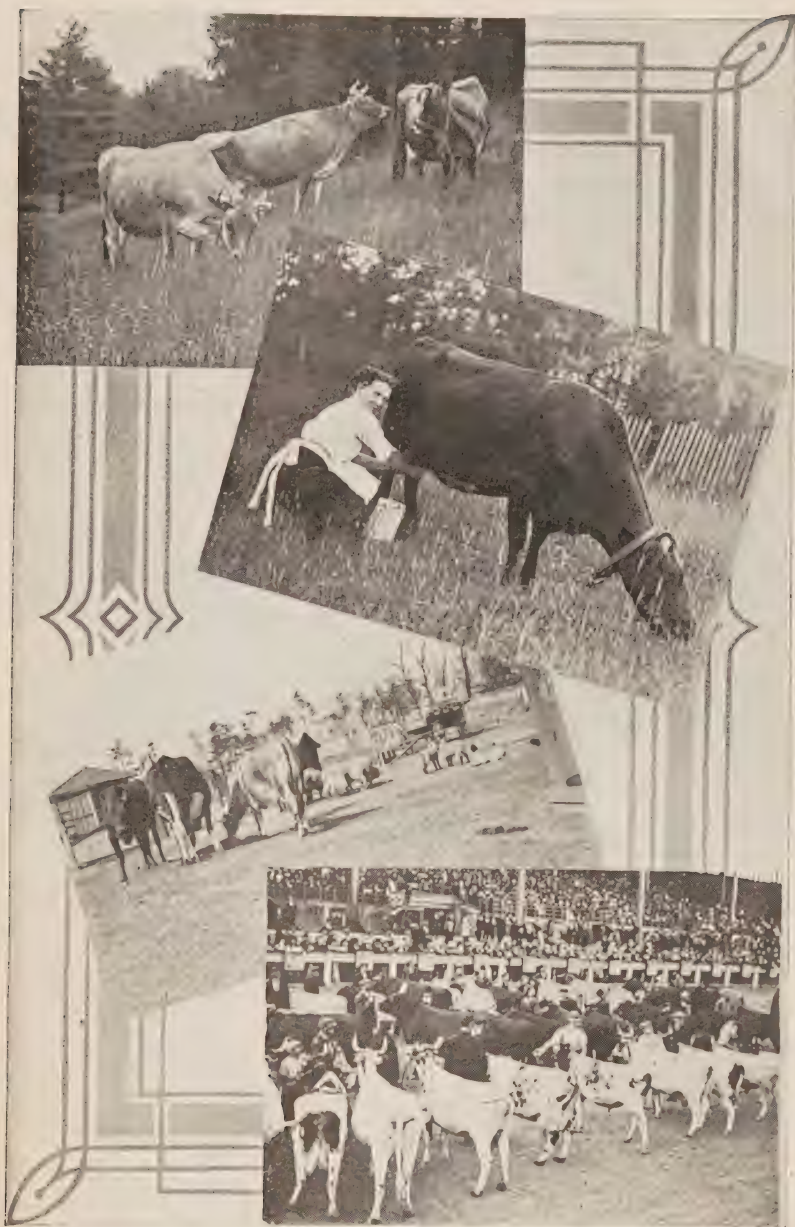
E. D.

The Farm Hand

Ontario is a place of work, and no man needs to beg a brother of the earth to give him leave to toil. The Province does not call for the clerk or the professional man; he is not wanted unless able and willing to do manual work. It is in special need of the farm hand, the man of experience, and of the domestic servant. Rapidly growing cities and towns are drawing heavily upon country produce. The lure of the city, and the wanderlust draw away the farm hand, not always to his advantage. So that the farm wants the worker. And strong, resolute men, whether experienced or not, are welcome. They will get good wages and good food. Their training in civilized conditions is distinctly valuable, should they aim or finally desire to grapple with the pioneer work of Northern Ontario. Better still—what is equal to a farm in advanced and educated Old Ontario? A few years' savings, as actual experience proves, will enable the farm hand to rent one for himself, with the aim of having it finally as his own.

The Farmer

The Province offers great inducements to the tenant farmer of the Old Land. Before him is the opportunity of settling down where the rough experience of the pioneer is past. Farms may be purchased at from \$2,500 to \$100,000. In the list of improved farms for sale (see "Farming Opportunities in Ontario," published by the Ontario Government) the price named for the farm includes land and buildings, but not stock or implements, unless mentioned. The farmer will usually accept a partial payment in cash with mortgage security for the rest. The price is not for leasehold but



1. Prize Jerseys. 3. Prize Cows. 4. Prize Cattle.

for a sale in fee simple. The tax is not levied by the Government but by the local municipality, and is about \$1.20 on the \$100 of actual property value. There are various reasons for farms being offered for sale. Having prospered, many farmers sell their farms and retire into the comfort of a home in town or city, the more readily if their sons have gone into business or professional life or into the pioneer work of Northern Ontario or elsewhere and have



Farm residence.

left the farm with inefficient help. In other cases the owners are men engaged in business, who rent their farms, which generally means a falling off in attention and fertility, and a consequent wish to sell, and in others there is the desire to realize a good profit. Some of these farms are offered at value, others at less, giving the opportunity of a good investment to the man of some capital who desires a healthy, independent life. With expanding cities and advancing values, the opportunity of investment may not always be

at comparatively easy command. Some day, perhaps soon, Ontario, with its great advantages, will be appreciated at full value. Here are people chiefly of British stock and Imperial sentiment; comfort and civilization; newspapers everywhere; fine schools and free education, high schools, colleges and universities; and churches of the leading denominations. Here are numerous agricultural and other organizations, instructive and conducive to friendship and happiness, and the ample guidance of the Bureau of Colonization. Here are the telephone, the electric light, the electric railway, and a network of railways affording transport for the products of the farm to the various towns and cities throughout the Province. And here farmers prosper. They possess 47,000 automobiles, and 118,645 telephones,* the latter representing a capital investment of about \$11,500,000. With convenient mail and telephone service the farmer of Ontario is in active touch with his neighbours and the busy world. All this, with the fact that Ontario can be reached in a week or little more, is worth the consideration of the tenant farmer of the British Isles.

* Under Ontario Ry. Board, about 90,000 'phones; Bell Telephone Co., 28,645.



Holiday seekers.

Immigration to Canada for the Calendar Year 1919

Immigration to Canada for the calendar year 1919 totalled 117,633, an increase of 67,363 over 1918, or 134 per cent. Of the 117,633 new settlers who entered the Dominion last year, 57,251 were from the British Isles, and principally soldiers' dependants; 52,064 from the United States, and the balance of 8,318 from other countries.

Emigrants from the United States, the majority of whom were of the farming class, brought with them into this country cash and effects amounting to \$18,419,406, as compared with \$7,351,647 in 1918.

Of the Americans who took up residence in Canada last year Alberta attracted more than any other Province. The number who went there was 13,883; Ontario got 12,093; Saskatchewan, 8,672; Quebec, 6,617; Manitoba, 4,465; British Columbia, 3,601; Maritime Provinces, 2,593; and Yukon Territory, 140.

Ontario drew most of the British settlers last year, having received a total of 23,914; British Columbia came next with 8,346; Manitoba, 5,908; Alberta, 5,867; Quebec, 5,513; Saskatchewan, 5,087; Maritime Provinces, 2,609; and Yukon Territory, 7.

From this it will be seen that the Province of Ontario ranks next to Alberta in emigration from the United States, and that it is the favourite Province of Canada for the emigrant from the British Isles.

For further information apply to

H. A. MACDONELL,

Director of Colonization,

Parliament Buildings,

Toronto, Ontario, Canada

Or to

The Agent-General for Ontario,

163, Strand, London, England.



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